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VOL. II.—10TH YEAR. SYDNEY: SATURDAY, SEPTEMBER 8, 1923. No. 10.

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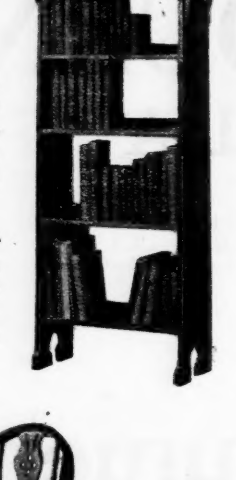

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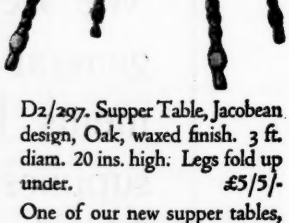

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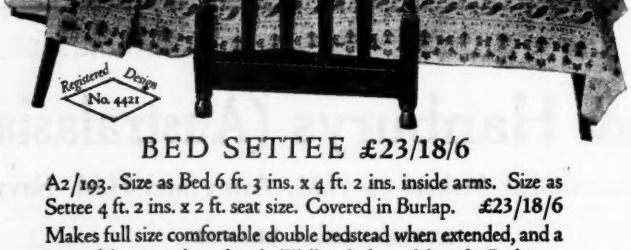

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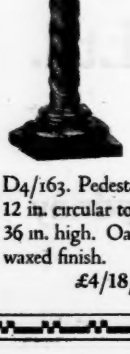

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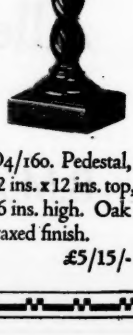

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CONGENITAL HYPERTROPHY OF THE PYLORUS: ITS SURGICAL TREATMENT.[1]

BY R. M. DOWNES, C.M.G., M.D., M.S. (Melbourne).
Honorary Surgeon to Out-Patients, Children's Hospital, Carlton, Melbourne.

UNTIL recent years the treatment of congenital hypertrophy of the pylorus has been almost entirely medical. In 1912 Rammstedt[(1)] first published the details of his operation for this condition and since then the value of surgical treatment has become increasingly apparent. In this paper, I am putting before you the conclusions I have drawn from my experience in the Rammstedt operation together with some details of its performance, my object being to show that the results, generally speaking, are better than those from medical treatment alone.

First of all I desire to emphasize the fact that this condition is very simple to diagnose, if it is thought of; but that without careful examination and a consciousness that it does exist, it is easy to miss. Furthermore, the diagnosis can be made from its clinical picture with greater certainty than in most diseases. Anatomically the essential feature is an abnormal development of the circular muscle coat of the pylorus which has been found to measure[(2)] up to seven millimetres in thickness (the normal being apparently two and a half millimetres or less). Associated with this is an increase in the length of the pylorus itself. The stomach is usually found to be dilated and to contain an excess of mucus.

As regards causation practically nothing is known, though many theories have been advanced. Experimental injection[(3)] of paraffin into the pyloric walls of dogs has failed to mimic the disease showing that, as might be expected, it is not the physical mass of the muscle tumour that is the cause of the symptoms. It seems probable that increased and continued muscular contraction, however caused, is followed by hypertrophy of the muscle fibres concerned. It is even a little doubtful whether the hypertrophy is congenital, for in the majority of cases symptoms do not appear until some weeks after birth.

Infantile hypertrophy of the pylorus is, perhaps, a more correct designation, though the condition is reported to have been found *post mortem* in the newborn infant and once even in a fœtus.

Diagnosis.

Early recognition of the disease is the most important factor in successful treatment. The history that should put one on the alert, is that of continued vomiting not associated with diarrhœa and in most

[1] Read at a meeting of the Melbourne Pædiatric Society on July 11, 1923.

cases definitely associated with constipation occurring in an infant. The onset is usually within the first month, sometimes directly after birth. The vomiting occurs soon after each meal or at irregular intervals; in the latter case the quantity vomited may be great owing to the retention of more than one meal in the stomach. The vomiting is usually forcible, often sufficiently so as to cause ejection of the stomach contents through the nose and to a distance of several feet, but not always. If the physician does not actually witness the vomiting and is doubtful whether the descriptive term of the text-book, "projectile," be applicable to the case, search then should be made for the classical sign of peristaltic waves. These are best seen just after a meal and when the child is warm; gentle palpation may help in their production. A good light is necessary. They do not, as a rule, appear till vomiting has been present for some days and are not seen in all cases. Several examinations are often necessary before they are noticed. In the eighteen patients which form the subject of this paper, peristalsis was observed in fourteen, in eight of them within two weeks of onset. In one case the mother described "a lump like a cricket ball moving across the stomach." While adding to the evidence in favour of pyloric obstruction, these waves are not pathognomonic. I have not seen any waves more prominent than in a patient with acute gastro-enteritis in whom no pyloric abnormality was found *post mortem*. Nevetheless the case will be rare, I think, in which projectile vomiting associated with visible peristaltic waves is not due to pyloric obstruction.

The one infallible sign of the disease is palpation of the tumour. I would go further and make the statement that failing the digital recognition of a small movable firm tumour in the right upper quadrant of the abdomen there is no certainty that pyloric hypertrophy exists. A number of writers in quoting cases treated medically make no mention of the number in which the pylorus was palpable, nor of the exact clinical features on which the diagnosis was based. It is this omission that makes comparison of methods of treatment somewhat unsatisfactory, as one is uncertain whether all the patients mentioned really had hypertrophy or whether some may not have been suffering from spasm. One American surgeon in fact went so far as to say that spasm of the pyloric muscles was the condition present in all cases cured by medical treatment. This is certainly an exaggeration. In all my patients the tumour was discovered before operation and the diagnosis confirmed at operation.

Now it is not by any means always an easy matter to feel the tumour. It is necessary to manœuvre it between the fingers and the dorsal wall of the abdomen and to do so relaxation of the anterior abdominal muscles is essential; this may require time and patience. If relaxation cannot be obtained, an anæsthetic should be given. In some babies the pylorus is found to lie dorsal to the dilated stomach, so that even with an anæsthetic it cannot be felt. In such a case examination should be repeated soon after the baby has vomited or after washing out the stomach. The tumour feels small to the examining fingers, suggestive of a scybalous mass no larger than an almond. It is usually found a little above and to the right of the umbilicus, but may be in the midline or close to the margin of the liver and when found, can be moved about. There is no doubt that it is much more readily detected after one has felt it in a few patients.

It is always of interest at least to have an X-ray examination after an opaque meal. A teaspoonful of barium sulphate is given in a couples of ounces of breast milk or artificial food and the examination made in twelve hours or so; usually a large proportion of the barium will then be found in the stomach. In some cases none has passed through the pylorus in more than twenty-four hours. I have not followed any cases to ascertain the earliest time in which the stomach empties, since the screen examination appears to tire the babies. In one child, however, the stomach was almost empty in fourteen hours. On the other hand I have seen a baby which did not have pyloric stenosis, in which the stomach was not empty until six hours had elapsed. As a general guide, therefore, I should say that retention of food in the stomach after six hours is strongly suggestive of mechanical obstruction. Strauss[4] considers a screen examination of the highest diagnostic importance and describes a peculiar rhythmical snake-like movement of the pylorus immediately after feeding, which he considers pathognomonic of pyloric obstruction. He lays down a standard to govern the mode of treatment. If 70% or more of the stomach contents remain four hours after feeding, he considers operation is indicated. If less than 70% remain, he states that the condition will be cured by medical treatment. While screening may be of diagnostic value in a doubtful case in which the tumour has not been felt, I do not think it is by any means essential. In any case it should not be allowed to delay operation once this has been decided on, if the child is in poor condition.

Treatment.

It is still a matter of controversy whether medical or surgical treatment gives the better result and statistics are frequently quoted to settle the question. The best surgical figures are those of Strauss[5] and Palmer[6] who had mortalities of under 3% in one hundred and seven cases and thirty-five cases, respectively, and of Downes[7] with a mortality of 17% in one hundred and seventy-five cases. These results are far better than those usually obtained by medical treatment which are commonly in the region of 50%, though recently Ernberg and Hamilton,[8] relying on rectal and subcutaneous injection of saline solution with the continuance of breast feeding and isolation, obtained the remarkable figures of a 3.5% mortality in fifty-seven cases. Unfortunately in their paper they make no mention of X-ray examination nor whether the tumour was palpable in all cases. The records of this hospital for the last three years show that of seven patients treated medically all died; of twenty-six treated surgically four died.

Comparison of figures may be fallacious. The condition of the child at the time of operation is

the important matter, for surgical treatment being of more recent date it frequently happens that babies are not handed over to the surgeon until it is obvious that medical treatment is unlikely to succeed. By this time their general condition has become such as to increase greatly the operative risk. Goldbloom and Spence[9] deduce from a study of one hundred and sixty-three operation cases that the greatest factor in the production of mortality is a long course of medical treatment. The mortality when medical treatment had been continued for more than four weeks was three times as great as when it had been less than four weeks. If ,in addition, artificial feeding had replaced breast feeding, the death rate in those medically treated for more than four weeks was nearly 50%. In other words the lower the weight, the poorer the chance of recovery after operation. The chances of recovery in babies over 3.15 kilograms (seven pounds) in weight has been calculated as three times that in babies under 3.15 kilograms. Though some surgeons lay it down emphatically that operation is indicated as soon as the diagnosis is made, my own view is that, provided that the baby is in good condition, medical treatment may be carried out for perhaps a week. If there is no definite improvement in that time, then operation should be performed. This improvement should show itself not only by gain in weight but by diminution in vomiting, for if subcutaneous injection of saline solution be given the weight of the child will always rise and its dehydrated appearance improve, while the condition of the pylorus may remain unaltered. If the baby is in poor condition when first seen, then I say unhesitatingly—operate at once. In general, however, it is to my mind the physician who should decide on the line of treatment in any particular case, provided that he is familiar with the nature of and the good results to be obtained from an appropriate operation.

The common operations are gastro-enterostomy, Loreta's dilatation of the pylorus and Rammstedt's muscular division. Gastro-enterostomy is so severe a measure that it need not be considered. I have no experience of Loreta's method, but Still[10] gives a mortality rate of under 20% and speaks of forty-five recoveries in forty-six recent operations. It seems to me that given surgeons of equal capability the shock and consequent mortality is likely to be greater in the more complicated Loreta than in the Rammstedt operation which is generally accepted as the operation of choice.

I have myself operated on eighteen patients by this method with sixteen successes, a mortality of 11%.

With regard to preoperative measures. It is advisable to wash the stomach out shortly before operation to relieve the dilatation which is apt to interfere with delivery of the pylorus and the rapid suturing of the peritoneum. If the baby is in poor condition subcutaneous injections of one hundred and twenty to one hundred and fifty cubic centimetre (four or five ounces) of saline solution with 1% dextrose should be given into each axilla. An objection to both these procedures is that sometimes they cause shock. In one of my patients bad sloughs followed injections of saline solution and dextrose.

The Operation.

In regard to the operation itself, there are a number of small details that I regard as important. Death is chiefly due to shock and to minimize this the most important requirements are warmth and quick operating. The child should be placed on a large hot water bag and all instruments and sutures should be ready at hand before commencing. Under favourable conditions the operation should be completed in ten to fifteen minutes or less and every endeavour, consistent with gentle handling, should be made to complete it as quickly as possible.

The tumour is palpated and an incision made over it through the right rectus muscle, above the umbilicus and about five centimetres (two inches) in length, sufficient to admit two fingers. The firm pylorus, easily recognized by touch, is delivered by traction into the wound. This is sometimes more easily done by drawing on the pyloric portion of the stomach till the pylorus appears. While the assistant steadies the stomach, a longitudinal incision is carefully made along the upper surface of the pylorus through the muscle coat down to the mucous membrane, extending from the pyloro-duodenal junction well back along the stomach wall. All the muscle fibres are completely divided along the line of incision. As soon as the mucous membrane is reached the wound gapes and the mucous membrane pouts. Caution must be used at the duodenal end where the ring of muscle ends abruptly and the mucous membrane may be perforated. This accident happened in one of my patients, but a piece of omentum was sutured over the slit and no trouble was experienced. There is no danger of wounding the mucous membrane at the other extremity of the incision. If the operator is sure that the muscle is completely divided, nothing more is necessary. Plastic muscle operations, suture of the serous coat or stripping off the muscle coat from the mucous membrane, serve no useful purpose and by increasing the time and severity of the operation produce shock, which is the very element above all others to be avoided. To test the patency of the pylorus by squeezing stomach contents through it is difficult, unconvincing and shocking. Hæmorrhage is usually either small or transient. It is said that in the older babies it is more prominent and may call for suturing.

The pylorus is then dropped back into the abdomen and the abdominal wall rapidly sutured. If the baby's condition is low three silk-worm gut "through and through" sutures are all that is necessary, but it is advisable to suture the peritoneum separately. Protrusion of the omentum or stomach, if it be dilated, may cause difficulty at this stage. Before tying the silk-worm gut sutures they should be passed through narrow rubber tubing and the knot pulled into the line of the incision after tying. This prevents them from cutting into the skin and reduces the inflammation which always occurs before the sutures can be removed.

After Treatment.

The most important point in after treatment is heat. A hot air bed made by covering a cradle with blankets with an electric light bulb inside is the most convenient method of applying it. The temperature should be kept at 32.2° to 37.8° C. (90° to 100° F.) for the next forty-eight hours and for longer if necessary.

As soon as the baby is conscious, he is given sips of water. In a couple of hours he may take the breast for five minutes and in about four hours he may be put on the breast for full time. Failing breast milk, milk and water or "Lactogen" may be given. There appears to me no reason to withhold his normal food from a baby that is merely now in a semi-starved condition, and I have seen no unfavourable results follow early breast feeding. Some physicians, however, advocate frequent diluted feedings for several days.

There is usually slight vomiting for two or three days after operation. In one of my patients it was reported to be projectile in nature on several occasions during the second day. A continuance of free vomiting indicates incomplete relief of the obstruction and calls for further operation.

A short rise of temperature may be expected, even over 39.4° C. (103° F.), but its occurrence or absence is of no significance. Most, but not all small children show a rise of temperature after any abdominal operation. This is mentioned, as one writer lays stress on a rise in temperature as an indication that the obstruction has been completely relieved. It is most important not to remove the silk-worm gut sutures till ten days after operation or the wound may burst open; not even when, as frequently happens, the skin becomes infected around the sutures.

When death occurs it is most frequently within forty-eight hours of operation and is usually characterized by sudden collapse. Other causes are intestinal complications evidenced by diarrhœa, peritonitis or hæmorrhage. In each of my fatal cases there was sudden collapse. Each patient had a suppurating umbilicus, but in the only one examined *post mortem* no peritonitis was seen. One weighed 2.54 kilograms (five pounds, nine ounces), the other 2.36 kilograms (five pounds, three ounces). They were the two smallest babies in my series.

Patients who recover, put on weight rapidly and do exceedingly well. One of mine swallowed the rubber teat of a dummy a few weeks after operation and successfully passed it *per rectum*. Veeder, Clopton and Mill[11] by X-ray examination found that there was no loss of gastric motility after operation.

The wound in the pylorus heals quickly. Martha Wollstein investigated this question and found that the healing was complete in nine days, leaving a depression which had disappeared in twenty-five days. A patient on whom I reoperated fourteen days after the first operation, showed a narrow linear scar with no depression. Dr. Wollstein found that the pylorus had become soft in two weeks, whereas it was still hard in a patient on whom gastro-enterostemy had been performed two years previously. The stomach appears to recover from its dilatation in four weeks.

Conclusions.

1. Congenital hypertrophy of the pylorus is easy to diagnose if its existence be remembered.
2. A palpable tumour is the most important diagnostic sign.
3. Medical treatment should not be persisted with in the absence of definite improvement.
4. Immediate operation should be carried out in enfeebled babies.
5. The Rammstedt operation is simple and gives a high percentage of recoveries.
6. Heat during and after operation is of the greatest importance.
7. Cure when brought about by the Rammstedt operation is absolute.

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NOTOEDRES CATI: ITS POSSIBLE TRANSMISSION TO MAN.

BY I. CLUNIES ROSS, B.V.Sc.,
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THE possibility of the transmission of the ectoparasites of the domestic animals to man is of interest alike to the veterinarian and the medical practitioner, not only as a matter of scientific interest, but also as one having a practical bearing on the work of each. The medical man is chiefly interested in the danger of his patients contracting ectoparasitic diseases from animals, while the veterinarian has also to consider the question in the light of the effect it may have on the welfare of his patient. There are few veterinary practitioners who have not been confronted with the necessity of destroying patients affected with curable skin disease because their clients fear the danger to themselves or their children of contracting such diseases. Animal owners frequently have a very erroneous idea of the seriousness of the lesions produced and

at the same time have formed an exaggerated estimate of the danger to themselves. The word "mange" seems to be invested with an atmosphere of awesome dread and this unfortunately often results in a request for the destruction of the animal affected on a positive diagnosis being made.

While this applies in some degree in the case of the dog, it is not proposed to deal here with either sarcoptic or demodectic mange in dogs, but only with notoedric (sarcoptic) mange in the cat.

Lap dogs and well-cared-for house dogs, which from their close association with their owners and their belongings would be the more likely source of infection from dog to man, do not often run any great risk of contracting mange from stray dogs owing to the care with which their movements are supervised.

On the other hand cats, owing to their propensity for nocturnal wanderings which it is almost impossible to check, meet with a variety of experiences and come in contact with acquaintances of all ranks from the most exalted down to the very dregs of feline society. As a result they are frequently exposed to the danger of infection, however admirable may be the hygienic conditions under which they are kept during their owner's waking hours. Cats also with their innate genius for selecting the most comfortable chair or cushion on which to spend long hours in slumber during the day, together with the careless, if affectionate way in which they are fondled, suggest themselves as a peculiarly suitable source of infection. The degree of danger which there may be, depends on the ease with which their parasites may be communicated to man. For these reasons then some consideration of the parasite involved in feline mange, together with the lesions produced and the evidence relating to the possibility of its communicability to man may prove of interest.

The mites causing scabies in man and the various sarcoptic manges of the domesticated animals are minute *acari* belonging to the family *Sarcoptidæ*. Warburton[1] emphasizes the desirability of grouping together the four closely allied genera, *Sarcoptes, Notoedres, Cnemidocoptes* and *Prosopodectes* in the sub-family *Sarcoptinæ*, not including in it as was done by earlier authors the genera *Chorioptes, Psoroptes, Otodectes et cetera*. Banks (1904) adopted this classification because of the close morphological relationship of the four genera mentioned which serves to mark them off from the other members of the family. It may be mentioned that genus *Cnemidoctopes* occurs only in birds, while *Prosopodectes* is confined to bats.

Scabies in man and sarcoptic mange in the horse, dog and pig are all caused by members of the genus *Sarcoptes* (Latreille, 1806). So slight are the morphological differences between these, that they were formerly considered to be merely varieties of a single species, the *Sarcoptes scabei* (De Geer, 1778). Some authors now regard them as specifically distinct and reserve the term *Sarcoptes scabei* for that of man, while those of the domesticated animals are known as *Sarcoptes equi, canis, suis et cetera*. Hirst[2] recently stated, however, that after examining mites from man and both domesticated and wild animals, he has been unable to find any constant morphological characters whereby they may be distinguished from one another and thus he still regards them as varieties only of *Sarcoptes scabei*.

While the mange mite of the cat was for long considered to belong to the genus *Sarcoptes* and as such was known as *Sarcoptes minor* or *Sarcoptes notoedres*, it is now generally accorded separate generic rank, being assigned to the genus *Notoedres* (Railliet, 1893).

The Teirreich definition of the genus as quoted by Warburton is: Male without anal cylinders; female without compulation tubes; long unjointed ambulacra on the two anterior legs of the female and on the two anterior and second posterior legs of the male; anus on the dorsal surface.

Oviparous Parasites of Mammalia.

The above definition differs only from that of the genus *Sarcoptes* in that the anus is situated dorsally, instead of being terminal as in the latter genus.

In this genus again there is some difference in nomenclature among different authors. Warburton states the members of the genus to be two species, *Notoedres minor* (Fürstenburg, 1861) and *Notoedres alepis* Railliet and Lucet 1893; *Notoedres minor* having two varieties, *Notoedres minor var. cati* and *Notoedres minor var. cuniculi*. Hirst uses different terminology, his species being, *Notoedres cati* Hering 1838, with a variety *cuniculi*, and *Notoedres muris* Mégnin 1880. Pillers[3] gives the variety *cuniculi* from the rabbit as a separate species.

Notoedres muris was recorded from the rat in Australia by Harvey Johnston[4] in 1918. The size of *Notoedres cati* given also varies. Pillers gives Mégnin's measurements, males 120μ × 90μ, females 160μ × 130μ; Warburton gives females 245μ-280μ × 165μ-175μ, males 145μ-150μ × 120μ-125μ, while the specimens I have measured come midway between these, the largest being females 200μ × 190μ and the males 140μ × 130μ.

While *Notoedres* has such close resemblance to *Sarcoptes* morphologically, it differs in its habits from either *Sarcoptes scabei* or the *Sarcoptes* of the domesticated animals. This difference has an important bearing on the question of diagnosis and treatment.

Anyone who has tried to demonstrate the presence of *Sarcoptes* in the dog in suspected cases of mange, knows the difficulty there frequently is of making a positive diagnosis. While this may be partly due to the fact that mange in the dog is much less common than is commonly thought—many suspected cases being eczema—it is in some degree due to the habit the ovigerous females have of burrowing in the skin, forming galleries some centimetres in length in which the eggs are laid and the larvæ hatch. The larvæ may then either burrow in the floor of these burrows or emerge and bore deeply into the skin outside.

Because of this characteristic to demonstrate the mites one has to scrape deeply till blood is drawn

and even then, owing to their comparative scarcity, there is often difficulty in finding the mites on microscopic examination. In the dog and horse also, owing to the pigmentation of the skin, one is unable to trace the outline of the galleries as may be done in man, so that individual females may be picked out with a needle. This factor also renders *Sarcoptes* difficult to reach with medicinal agents. In notoedric mange, on the other hand, we meet with no such difficulty. The females do not form long burrows in the epidermis, but are situated quite superficially, eggs being deposited in so-called "nests."

Lesions and Symptoms Produced in the Cat.

The commonest sites affected are the ears, forehead and neck and less frequently the paws and tail. In the early stages the lesions may be detected by running the fingers over the ears and head, when before anything is to be observed without careful examination, little papules may be felt under the hair. Scrapings taken even in these early stages often reveal the parasite without prolonged search being necessary. These papules soon rupture, their contents matting the hair and forming crusts. As the disease progresses fresh areas become involved, while the crusts formed become thickened and more characteristic in appearance and the hair is shed, the edges of the ears often becoming greatly thickened by these yellowish-grey crusts. If the paws become affected, probably through the cat's method of washing the head, the matting of the hair and the crusts formed give the feet a large and clumsy appearance. The cat may show some inconvenience, lifting the feet high and shaking them as it walks. The tail also may become affected especially towards the tip, the hair falling out as the crusts are formed. While, unlike sarcoptic mange, the irritability may not be severe, the animal as the condition advances becomes very dejected and miserable and death may ensue in four to six months.

Diagnosis.

Diagnosis even in early stages is fortunately easy. Crusts when thick are merely detached with a pair of forceps from a suitable place such as the edge of the ear. Where the lesions are not advanced, crusts are scraped off individual papules, though it is not necessary to scrape deeply as in demonstrating sarcoptes. Crusts so obtained are boiled for a few minutes in a 10% solution of caustic potash or for preference in chloro-lacto-phenol. The crusts are then flattened out under a cover-slip and examined under the low power or a drop of the chloro-lacto-phenol may show the mites floating free in it. In advanced cases the crusts contain great numbers of mites, both males and females, larvæ and hatched and unhatched eggs. Where one is unable at once to make a microscopic examination, a preliminary diagnosis may be made with some degree of certainty from the characteristic lesions and sites affected.

Transmissibility to Man.

Considerable experiments have been carried out to test the possibility of mange mites being transmitted to man from the domesticated animals and from one animal to another.

Delafond and Bourgignon at the Alfort Veterinary College were among the early pioneers and established the possibility of the sarcopt of the horse and dog being transmitted to man.

Of recent cases reported, Macdonald[5] records that a number of students at the Royal (Dick) Veterinary College became affected after a *post mortem* examination on a mangy horse. Unfortunately they recognized their symptoms and adopted curative measures, so that the length and seriousness of the infestation was not tested.

Whitfield[6] mentions three cases in man in which the patients had become infected through contact with mangy dogs. In two cases the pruritis had lasted for three weeks and treatment was adopted before it was cleared up.

In regard to *Notoedres cati* there is also considerable literature relating to its transmissibility to man and to other animals. Neumann[7] quotes Gerlach as having experimentally infected students by placing crusts taken from cats on their arms. In three individuals the disease disappeared spontaneously in ten, fifteen and twenty days respectively, but in the fourth person, a very hairy blonde, the disease persisted for six weeks and only terminated after a sulphur bath had been administered. Cases are also recorded of children being infected through nursing mangy cats.

It may also be transmitted to the horse or dog. Railliet[8] also experimented with *Notoedres* from the cat and rabbit and found that he could not transmit the *Notoedres* from the rabbit to the cat and only from the cat to the rabbit with difficulty and after prolonged exposure to infection. This is interesting in that both animals are naturally affected with varieties of the same species.

Thibierge[9] in a paper of which I have not seen the original, states that *Notoedres* produces in man pruriginous papules, analogous to those caused in phtheiriasis or in skin affections of toxic origin and is not strictly speaking a "mange." Mites are not found in the more recent vesicles, the lesions being produced by the puncturing of the epidermis and disappear spontaneously.

During the present year, I had occasion to examine several cats suspected of having mange at the Sydney University Veterinary Clinic, a positive diagnosis being arrived at in all cases. It was decided to test the possibility of transmission to man, crusts being taken from these cats after a diagnosis had been made.

Experiment I.

Crusts from the ear were bound on to the right arm for ten minutes. There was no result. Though some slight itching was felt, this may have been imaginary.

Experiment II.

Crusts from ear of an affected cat were placed on the left arm for fifteen minutes. On the succeeding day two papules had developed at this site and there was some slight itching. Scrapings, however,

did not yield parasites. These papules might have been accidental and not due to *Notoedres*.

Experiment III.

Crusts from ear and tail of a badly affected cat were tied on the right leg for one hour and a half, the site being midway between the knee and ankle. During the afternoon itching was experienced from time to tme, but was not severe. The same evening the irritation increased, but did not disturb me during the night. On the second day the irritation increased and at times was so great that I could not resist scratching the affected part. By evening the pruritis was considerable over an area about 7.5 square centimetres. During the night the irritation was so severe that I awakened several times. Irritation was also felt in the other leg, infection having probably spread to it during the night.

On the third day the leg from the knee to the ankle was covered with great numbers of small red papules from which a little serum could be squeezed. In all cases these papules seemed to surround a hair follicle. A few papules were also present on the calf of the left leg. The pruritis especially round the original site was very evident. Irritation continued to be severe throughout the day.

On the fourth day the irritability considerably diminished. A few papules were found above the knee. On the fifth, sixth and seventh days the symptoms became progressively less marked and by the eighth day had practically ceased and by the tenth day practically all the lesions had disappeared. Scrapings and swears of the contents of the papules were examined on the seventh day, but no mites were found.

No treatment was adopted throughout this period, but the daily bath may have had some adverse influence on the parasite.

The above experiments support the contention that mange in the cat is under certain conditions communicable to man, but it must be remembered that in this case conditions were most favourable to infection. In the earlier experiments where exposure to infection was not so prolonged, the disease was not reproduced.

While it is unsafe to generalize from a single case, the above experiment would appear to support the views previously held for this condition that though *Notoedres cati* is communicable to man, the infection is temporary and tends to disappear spontaneously. I do not consider that where treatment is adopted and the ordinary rules of cleanliness and hygiene are observed, the danger of infection from affected cats is serious. It may be mentioned that it appears to be more or less the general rule that, though there is a considerable degree of inter-communicability of the *Sarcoptes* of man and the various domesticated animals, the infection tends to disappear without treatment, though in exceptional cases it may be prolonged and severe.

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A MIDDLE-AGED MAN IN LOVE: HENRI QUATRE.

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THE great thing about Henri Quatre, from the point of view of a medical essayist, is that no feminist of an anti-syphilitic fury will expect him to be classed as an awful warning of the devastations of that disease. Poor Henri died of good honest assassination, the product of an even worse disease than syphilis—religious intolerance. A disease which could cause the awful wars of Henri's own life, and a few years later the most dreadful of all wars—the Thirty Years—need not fear to be classed alongside even the most disreputable and destructive of human disorders. And the fact that nobody in these terrible wars ever had the least idea why people were killing each other, only makes the marvel of religious intolerance even more amazing than it is. Of course, there is no such thing as religious intolerance. Religion should make war impossible and should inculcate tolerance for other people's opinions. Did the good natured and kindly gods of old Greece ever breed a religious war? Did anybody ever go swash-buckling in helmet and armour for Zeus or Aphrodite? Unless perhaps Aphrodite to him meant some individual woman who had been raped from her home, such as Helen of Troy; and Helen probably meant some vague abstraction of a Greek woman as opposed to a barbarian, if she did not symbolize Greek trade through the Hellespont, obstructed by Trojan robber-bands. The Marxian materialist view of history grows rather attractive when it is applied to people who have been dead three thousand years.

Quite apart from the murderous sectarian squabbles which have been dignified by the name of religious wars, the life of Henri Quatre, very properly classed as one of the heroes of France, is extraordinarily interesting to a doctor. But in many ways the most interesting thing about him was his relations with women. Henri may have had some conscience about religion—though I doubt it—but, like our own Charles II., he had absolutely no conscience about women. To him, whether he was married or not, any pretty girl was fair game; and those who care to read pornography, can find

plenty of it in the record of his life. The seventeenth century was a period of bitter sectarian difference and it was a time when the divine right of kings to possess pretty girls was elevated almost to an article of faith. Thus we had the marvellous spectacles of King Henri IV. and King Charles II., of whom the one became a national hero, the other a by-word for flippancy and falsehood. I am not going to be led into any temptation to find the cause of the one phenomenon in the other—to say that if it had not been a period of such bitter sectarianism the virtue of girls might have been more sacred to kings, because there have been good kings and bad kings at all times; girls have been virtuous or wanton whatever their religion; and the seventeenth century was not the only century in history. The sixteenth and eighteenth could show instances of moral depravity quite as bad as that of either Henri Quatre or Charles Stuart. Let us see what a doctor may be able to say about Henri Quatre.

When he was about nineteen he married Marguerite de Valois, the third of that name, who has achieved fame under the popular name of Reine Margot. She was sister to King Henri III. of France; our Henry was at that time only King of Navarre: his little kingdom lay in the south of France, on the borders of Spain. His father had been Anthony of Bourbon; his mother Joan of Albret. Joan had agreed to the marriage with a very heavy heart; she feared the bright eyes of the Catholic enchantress who was to bewitch her own beloved son. She herself was a Huguenot who probably looked upon Marguerite as sent directly from the devil. If Marguerite had really been sent by Satan to the inferno of Parisian wickedness, she needed no great ensnaring; for, when she married the good Henri of Navarre, simple young country bumpkin that he was, she had already had an affair with the Duke of Guise and her reputation for virtue would not have passed any great test. She was pretty and, what was more potent, she had a peculiar charm of manner that enabled her to capture all but the most resistant of men. Many of us remember how Marguerite in the "Huguenots" of Meyerbeer, dances along the stage singing, to her lute and plangent orchestral pizzicati "The Fair Land of Touraine." Although this, according to Wagner, is very inartistic; still, it is very charming and has no doubt left Marguerite for us moderns with a character that is more beautiful than it really was. She could no more resist enchanting a man than Henri could resist trying to possess a good-looking girl; the bonds of matrimony sat very lightly upon both. There was no love in the marriage, which was, almost more cynically than most royal marriages, simply an affair of state. Catherine de Medici, Marguerite's mother, wished to convert Henri to the Catholic faith and at the same time to make him an enemy of Spain which, under Don John of Austria, had just won the earth-shaking victory of Lepanto.

But Marguerite could do something else besides make love; she could write. At a time when everyone else was striving to be distinguished in style, Marguerite wrote as simply and clearly as if she were speaking; and her "Memories" are therefore still delightful to read. Just after her marriage the massacre of St. Bartholomew broke out. Let the royal lady tell how it affected herself. "An hour later, while I was fast asleep, someone came beating at my door with hands and feet and shouting 'Navarre, Navarre!' My nurse, thinking it was my husband, ran to open the door. It was a gentleman, wounded by a sword-thrust in the elbow and his arm cut by a halberd, who rushed into my room pursued by four archers. Seeking safety he threw himself on my bed. Feeling this man clutching me I threw myself into the open space between the bed and the wall, where, he still grasping me, we both rolled over, both screaming and both equally frightened. Fortunately the Captain of my Guards, M. de Nançay, came by, and seeing me in such a plight could not help laughing, but drove the archers out of the room and gave me the life of the poor gentleman, who was still clinging to me, and whom I caused to be tended in my dressing-room till he was quite cured. While I changed my night-dress" —Marguerite was lucky to be wearing one in 1572— "for he had covered me with his blood, M. de Nançay told me of what had happened and assured me that my husband was in the King's room and was quite safe. Making me throw on a dressing-gown, he led me to the room of my sister, Madame de Lorraine, which I reached more dead than alive; just as I was going into the ante-room a gentleman trying to escape from the archers who were pursuing him, fell dead three paces from me. I, too, fell fainting into the arms of M. de Nançay and felt as if the same blow had pierced us both."

Dumas describes this incident in "Marguerite de Valois"; but his description is no more vivid than Marguerite's. The temptation to make the poor fugitive the hero of his book was too great and he turned the ill-fated de la Mole into Marguerite's unwilling bed-fellow on that night of weeping. I dare say that Marguerite was not sorry to be able to save the poor man's life, even though Dumas makes her behave far from generously to his hero later; she has him broken on the wheel.

Queen Joan, her mother-in-law, describes her as being very pretty, but one could not see her face for the paint; she was rather too stout and was too tightly laced. Afterwards when she had abandoned all sense of decency, she became enormously fat and could hardly get through an ordinary door. Her intelligence and great fondness for reading probably did not make Henri love her any better, because he could never finish a serious book. She said about her brother Henri III. that if all the treachery in the world should perish, Henri III. had enough to restock it; so it is clear that brother and sister did not really love one another; and probably Marguerite could not resist the temptation to make a scathing epigram.

But Joan need not have been so perturbed over her son falling into the hands of the Satanic Marguerite, for if all tales were true, she was no great saint herself. Once, when Henri III. was in a particularly bad temper, he went to Marguerite in

church and called her all manner of abominable names, so that she turned and ran weeping out of the church. Later he went up to Henri Quatre and half-apologised for his rudeness, explaining it because of some unfortunate incidents that had been rumoured about Queen Joan's own virtue. Henri laughed and afterwards said: "What a nice fellow he must be! He thinks by saying that I am a bastard, to make up for calling my wife a prostitute." That was really much the sort of thing that our own beloved Charles II. might have said; and it appears to picture Henri Quatre vividly as a maker of epigrams with just sufficient truth in them to hurt. And all done with a kindly smile, too.

When the civil war broke out, Henri of Navarre took the lead with furious energy on the Protestant side; and it was then that he won his reputation for soldiering and for romance. The white plume of Navarre has been an oriflamme for many a novelist ever since. And it was more than romance, though treated so romantically by Macaulay in his "Battle of Ivry." Henri had bound upon his head a great plume of white peacock feathers just before the battle. "Should the standards fall,' he cried, "rally round the white plume of Navarre. I promise you that it shall be found in the thickest of the fighting." He made good his boast, for he charged the Catholics two horses' lengths ahead of his followers and fought furiously until his sword was beaten out of shape and his right arm swelled with over-exertion. I suppose the lymphatics of the arm became somehow obstructed, but I confess I do not quite understand the pathological condition; still, the incident made a great impression upon his soldiers and gave Henri of Navarre a name for immense courage and enterprise. As a result of many hours' fierce fighting the Protestants swept the field, partly because the Swiss mercenaries, finding that the League had not paid their wages, surrendered incontinently. *"Pas d'argent, pas de Suisse,"* was their excellent motto, which the League should have remembered. If Henri had swept on to Paris the opinion is that he might have entered it with very little trouble. But he had no money; he had fired away all his ammunition; and the roads were made impassable by recent rains. Moreover, even if Paris had opened her gates to him, the Pope would never have ceased his hostility to a Protestant King of France; and once more the old spectre of civil war, interminable, bloodthirsty and dreadful, would have arisen. And after all the majority of Frenchmen were Catholic; and the mighty power of Spain waited just over the Pyrenees to help the Pope if indeterminate civil war should occur. Paris lay, weakly defended, ready for assault; but it would have been a terrible crime for Henri to give the word and to subject his capital to a worse than St. Bartholomew. So he agreed to "receive instruction," saying before he did so that his religion was that of all brave men. Paris, strictly invested, suffered the worst horrors of famine. Soldiers killed and ate stray children and a woman even salted down and ate her own babies who had died of starvation. It is said that the poor creature went mad from this Thyestian feast and who can wonder! The great Alexander Farnese, Prince of Parma, was arriving from the Netherlands with a relieving army of Spaniards; he outmanœuvred Henri and opened navigation to the beleaguered city. Henri could neither pay his men nor would he permit them to pay themselves by the sack of the city; so naturally they went home. Henri and a few faithful friends and horse soldiers retired to watch and hope. Thus was fulfilled the prophecy of his great though somewhat thrifty ally, Elizabeth of England, that: "If God shall by His merciful grace, grant you victory, I swear to you that it will be more than your carelessness deserves." Kipling, in an unforgettable phrase, has told us all about the "female of the species"; and in many ways, Elizabeth was the female of the species to which Henri Quatre belonged. The daughter of Henry VIII. would have had no mercy, if her own ends had been at stake. And yet, I don't know. Tilly a few years afterwards showed at Magdeburg the horrors that could be perpetrated by religious enthusiasts; and one hates to think that Elizabeth's love for England could ever have allowed her to sacrifice London for a point of belief. Henri Quatre had not only allowed friends in Paris to be fed while he was supposed to be investing it savagely; but he had allowed it to slip through his fingers when he might have captured it, all through a tender heartedness that would spare its citizens the horrors of a Magdeburgian sack. It is no wonder that with all his faults he is one of the heroes of France. Then Parma, finding that the Parisians hated Spanish pride more than they hated French Protestants, went away with his invincible army; and as soon as his back was turned, Henri resumed the siege. Parma had proved, if nothing more, that he was a better strategist than Henri Quatre; but Paris returned to the old misery of starvation and disease; a misery that it has so often faced nobly.

And now began Henri's more serious troubles with women. For a long time he had had an affair with one Madame de Grammont, whom he called Corisande. To her he wrote the most passionate of letters. Anybody would think to read them that he really loved her; but even as he besieged Paris, he had fallen in love with the abbesses of Poissy and Montmartre, whose profession should have taught them wisdom if not virtue. Now came a more serious affair. In 1590 he met a Gabrielle d'Estrées, with whom he fell violently in love, while he was "carrying on" with the other three ladies. She already had a beautiful lover; but that did not matter to Henri Quatre. Probably it only caused him to admire her the more. He slipped through detachments of the enemy disguised as a woodcutter, with a bundle of straw on his head, to visit her. A nice, romantic and undignified action for a King; but we shall see later, as he grew older, how he could stoop even lower. For the present the problem was how to gain possession of Gabrielle, get rid of Corisande and set up a nominal possessor who should not be a rival in Gabrielle's heart. He got her father to marry Gabrielle to a M. de Liancourt, an aged widower with eleven children, while Henri IV. enjoyed the *droits de seigneur*. Corisande growing old dropped out of the picture.

Then came a fierce struggle for Rouen, with Parma hovering ready to give battle. Again he showed his superiority to Henri Quatre as a strategist by transporting his army secretly across the Seine and escaping Henri's threatened attack. Henri had a much larger army than Parma's and it was only Parma's extraordinary skill that saved him from destruction. But now came the end of the long war; for Parma died and Henri turned Catholic. "Paris is well worth a mass!" as he did not say. We have always been taught to consider this as an act of shameless cynicism; but there was a great deal to be said in Henri's favour; certainly from the point of view of the twentieth century his action was the only thing that could have brought peace to his country. Though Parma was dead, Spain was still powerful and vengeful; the Catholic priests called Henri heretic, relapsed miscreant, devil and bastard, whom the soldiers knew to be a kind and generous friend, always smiling and ready to help. Gabrielle—*charmante* Gabrielle who has given her name to a song that Henri wrote in her honour—urged him to turn Catholic that the Pope might perhaps divorce Marguerite and let him marry Gabrielle. So Henri yielded, threw his scruples to the winds and embraced the Old Religion; though his embrace was probably not so ardent as those which he gave to the abbesses who more corporeally represented the faith to which he yielded.

An amusing sidelight on his character is thrown by his message to Queen Elizabeth by the lips of her supposed lover Essex whom she had been rating soundly because he had lost too many Englishmen in Henri's wars. The irate Virgin was so flattered by Henri's praise of her beauty and charm that it needed all her caution and frugality to keep England from plunging single-handed into yet another great war with Spain on his behalf. Happily for us she had sense enough to keep out of it; and before her help became necessary, Henri had gone to mass. When Henri fell so shamelessly in love with Gabrielle he was thirty-five years of age—probably not old enough for an enlarged prostate to begin to work its wicked will upon him; that will come later with yet another official mistress. At thirty-five the ordinary neurasthenia of middle age no doubt began to trouble him—that cause of so much marital unhappiness and so many divorces. But, if any one woman could be said to have captured his heart, it was undoubtedly Gabrielle. I once read an account of her written by a lady, possibly unmarried. Anyhow, no one would have guessed from this extremely proper description that Gabrielle was Henri's official mistress; the good lady seems never to have heard of a man being anything but a woman's husband. Gabrielle was rather ample of figure—Henri seems to have liked his women fat—and had deep blue eyes and golden hair. Her face was kind and smiling; her manner gentle; before she fell in love with Henri her morals had been, to say the least, unconventional; after she admitted the King to her friendship she continued her relations with the lover who had rashly introduced her to his more enterprising King. She was extravagant and the King loaded her with jewels at a time when he said he was penniless; created her Marchioness of Monceax and Duchess of Beaufort; he was as faithful to her as it was possible to him to be to any woman, which is not saying very much. At any rate his *amours* were henceforth conducted with a certain amount of decency and discretion. When she died the only book found in her possession was her "Book of Hours." Except for her easy morals it would be impossible to find a greater contrast than that between her and Marguerite, who could enjoy learned books, play the lute and write like a novelist. It would seem impossible for even "Aunt Tabitha" of a lady's newspaper to give to Marguerite de Valois any hints on the art of managing a husband; but it is clear that she did not go the right way about it with Henri of Navarre; and Gabrielle d'Estrées was evidently much more to his taste, for he remained approximately, though not bigotedly, faithful to her till she died. In justice to Marguerite it is only fair to say that she never liked him; she was forced by mother and brother into marrying him; and probably even a Sixteenth Century princess had her preferences. The ultimate result was that Gabrielle became a sort of ideal among the people, who overlooked her unusual position for the sake of her wide-set blue eyes and kind smile; and a few years after she died she was already a legend. To this day she and Henri Quatre are greeted with a kindly smile among the French when one mentions them and "Charmante Gabrielle" is still a well-known song.

As the years rolled by she bore him several children and more and more took the position of his wife. He became still more infatuated with her; and she for her part abandoned the life of dissipation which is said to have distinguished her youth. Henri wanted to marry her; she must have had great powers of fascination to make him so faithful after so many years. The idea was to procure a divorce from Marguerite and elevate his mistress to the throne. But just before the projected marriage Gabrielle went to Paris and stayed at the house of an Italian named Zamet. On April 7, 1599, she became very ill and was artificially delivered of a dead child on April 9. She fell into violent convulsions; on the tenth she became unconscious and that evening she died. Of course, Sully, who did not like her—for even Gabrielle had her enemies—hinted that she was poisoned; such was the reputation of the Italians in Paris at that time; and Sully's ill-natured hint has evidently influenced historians to this day, for the good lady whom I quoted above, repeats it as at least possible. But is it not much easier to believe that she died of puerperal eclampsia? She was middle-aged; she had had several children; she was far from slight in figure. At the Royal Hospital for Women in Sydney we find that most of these women who die nowadays from eclampsia, are very much like Gabrielle in age, figure and the number of their children. Of course, it is impossible to say definitely; but I should be very much surprised to find that Gabrielle's kidneys were absolutely healthy during that last year of her life. And it is quite possible that in that last confinement Gabrielle in this way paid

the penalty for her dissipation in early youth. It is at least more likely that she should die from a perfectly well-known and fatal disease, such as eclampsia, than that anybody should try to poison a woman so generally popular, though she had enemies who were both jealous of her and disliked the idea of a royal mistress becoming Queen of France. Kidney trouble, which is often at the root of eclampsia, is often caused by drink and people at the court of France generally used to drink too much in those days. After all, it is only a suggestion that could easily explain the sudden death of an apparently perfectly healthy woman, just as the moment was approaching when she should achieve her ambition.

Henri was broken-hearted; he swore that never more could he see happiness again. Yet three months later he was paying court to a very different sort of woman from Gabrielle, to Henriette d'Entragues, a slim girl of eighteen with a bitter tongue. The best excuse we can offer for Henri—and it is quite a good one—is that his prostate gland must have been growing too large. He was then about fifty years of age and had led a very anxious and troubled life. He had been a hard rider, a famous cavalryman. At the end of a few weeks of "courtship" he induced Henriette to accept a document in which he promised to marry her if she could bear him a living son in the course of a year. Henriette agreed to try and joyfully took her position as the mistress and promised wife of the King. But alas for Henriette! Six months later there came a terrible thunderstorm that caused her to miscarry and released Henri of his bargain. But his ministers had already engaged him to Marie de Medici; and Henri probably felt that Jove's thunderbolt had come to his assistance. By that time Marguerite had been duly divorced by an obliging Pope who would no doubt do a great deal for the brand plucked from the burning of Protestantism. In her old age Marguerite became enormously fat and there are many stories told about her orgies with footmen and other tall fellows. It is said that she used to carry their hearts, if they died in her service, about her in a bag; and that she used to wear a wig made from their locks of yellow hair. Indeed, imagination has exhausted itself in devising infamies for the last years of Marguerite de Valois. It is difficult to recognize this corpulent and beraddled old woman in the gay young princess who danced to lute and pizzicati strings in the "Huguenots." Reine Margot indeed had a sorrowful ending judging by the ordinary canons of human happiness. Let us hope the stories are not true. She is always considered an amazing example of the Valois faculty for combining artistic sensibility with the grossest lust. Strange things are said to have happened in history; and one must always remember her very unhappy marriage.

At fifty old age according to Sir Humphrey Rolleston usually touches the average man lightly on the shoulder and his friends begin gracefully to "chaff" him, saying: "Oh! you're not as good a man as you were ten years ago"; meaning that his sexual desire is beginning to lessen; it is then that the average man according to some philosophers begins to feel happy for the first time in his life. Lewd proverbs have been coined about this well-known fact, on the lines of the Greek: "Call no man happy till he is dead." Another school of philosophy holds that happiness comes with the loss of teeth. But sometimes the ageing man boasts of his prowess as if to defy time and proverbs. Such a hero is always abnormal; either the first symptoms of some nervous disease, such as *locomotor ataxia* or general paralysis are beginning to show themselves or his prostate gland is beginning to enlarge. His position is very much like that a lady who, after the change of life, observes that what she thinks to be the normal menstrual discharge has returned; she does not know that this is often the first sign of cancer of the womb and that what she thinks to be reinvenescence is really often her death-warrant. Youth never returns; the tale of years is inexorable. It is lucky for the old man if he has some faithful friend who will guard him, and, as is said euphemistically: "Keep him out of mischief"—that is to say, keep him from catching syphilis, which is a terrible thing in old age or at any age. The old man afflicted with an enlarged prostate seems absolutely to go mad about women; dignity, honour, decency and all else are forgotten. One of the few things that I agree with in Mr. H. L. Mencken's unkind book "In Defence of Women" is where he says that most men are faithful to their wives, because most men have a conscience, if for no other reason. But when, to ordinary senility there is added the intolerable desire that accompanies an enlarged prostate, all other considerations are cast to the winds.

After his marriage to Marie de Medici, Henri abandoned even the pretence of decency; Marie seems to have had to let him go his own way. As for him, he complained that she made his life a hell upon earth and he attempted to assuage his wounded feelings with every other girl who came his way. There were many such, who yielded to the King while they mocked at the elderly man with their younger lovers. Then, in 1609 he met Charlotte de Montmorency, a charming and beautiful maiden of fifteen. He saw her while she, dressed up as a nymph of Diana, was rehearsing for a masque. He was passionately arrested by her beauty and soon afterwards was laid up with an attack of gout. Alas, Charlotte was already engaged to a M. de Bassompièrre. But this did not daunt the conqueror of Gabrielle d'Estrées. He had dealt with such trifles before. As he lay groaning with the gout he thought out a brilliant scheme which he actually proposed to M. de Bassompièrre. He sent for the young man, told him that he was frantically in love with Charlotte and asked him to give up the idea of marrying her so that the damsel should be free to become Henri's platonic mistress, with all her virginal beauty untouched. And de Bassompièrre actually agreed to give up his bride. Naturally Charlotte was deeply aggrieved and gave her easy-going and youthful lover such a withering glance that he retired in mortification to his own room and could not eat for three days. But that

did not mean that Henri was to possess her; for, in the forthright fashion of those days he married her to the Prince de Condé, who was supposed to think only of hunting and field-sports and not at all about women. But Condé's nature changed after marriage to a beautiful girl as any cynic might have expected; and he became mightily annoyed when he saw the King aping the young men in silks and satins and paying violent court to his beautiful young wife; nor was Charlotte so discreet as she might have been, for she received from him desperate love letters and poems and answered them erotically and foolishly. The young husband and the elderly lover quarrelled fiercely and Henri lost what dignity he still possessed. Then Condé took her away for safety to a castle near Flanders; Henri followed and stood, disguised as one of his own huntsmen, by the roadside with a patch over one eye that he might have the joy of gazing upon her for a moment. Seeing her at a window he would bow and kiss his hand, placing the other hand over his heart and assuming all the ridiculous antics of an elderly lover on the stage. The Duc de Montmorency her father actually wished Charlotte to yield that he might gain the favour of the King. When Condé heard this, he thought he had better take more active measures, so the young couple hastened over the border whither Henri could not follow them. The actual details of the next few months are not very interesting; they simply represent the frantic efforts of a man who was getting senile, to gratify an adulterous passion. It is said that he even threatened war with Spain for Charlotte's bright eyes, but this is probably not true. Henri loved his country enough to prevent him from doing anything so wicked. But if his prostate was not growing too large, he showed all the mental symptoms of it so far as we can tell today. The incident is one of the most painful in history and calls for all one's sympathy with the "sorrows of a poor old man."

Then came Ravaillac and his dagger to end Henri's misery; and probably, to those who know the inevitable end of a man suffering from enlarged prostate without modern surgery, Providence was kind to Henri in sparing him years of real misery and pain. Assassination is at least a merciful death to a man who at the early age of fifty-five has nothing to look forward to but the "labour and sorrow" of the Psalmist. People often wonder what further reforms he might have effected in France; but I personally have never known a man to live very long after such an incident as that with Charlotte de Montmorency. He had done great work for France. Besides the merciful Edict of Nantes, which gave freedom of worship to the French Protestants for generations, he reformed her finances, organized her army and introduced the silk-worm industry which has done so much to strengthen the people of that amazing country. The French have long ago forgiven his sins against morality and decency and taken him to their hearts as one of the greatest of Frenchmen. And now, when his wonderful personal charm has long mouldered to dust, the evil that he did is interred with his bones; only the good remains in the memory of mankind.

Reports of Cases.

POST-OPERATIVE ACIDOSIS.

By MARY C. DE GARIS, M.D., B.S. (Melbourne),
Geelong, Victoria.

I OPERATED on Miss B., aged forty years, some years ago on the sixteenth of the month. The operation was carried out under ether anæsthesia and consisted of the removal of polypi and curettage of the uterus together with supravaginal hysterectomy for multiple small myomata. The operation took a long time. Preceding the operation the patient had had a profuse, watery, blood-stained discharge from the vagina. She vomited on the two days succeeding the operation. On the fifth day after the operation she had an attack of profuse sweating followed by collapse. This was thought to be due to a heart attack. On my arrival she was recovering from the collapse, her pulse-rate was 116 per minute and her temperature was normal. She was pale and complained of aching of the jaws and pain in the region of the apex beat. I gave her a hypodermic injection of one cubic centimetre of pituitary extract. She vomited once and said that she felt as though she were being squeezed.

On the twenty-second of the month she complained of feeling hungry.

On the twenty-fourth of the month two stitch abscesses were present. She complained of pain "like an intermittent stitch" about the area of the apex beat. She was able to eat a grilled chop.

On the twenty-eight of the month her temperature was 34.4° C. (101° F.) and the pulse-rate was 96 per minute. She complained of feeling tired.

On the thirtieth of the month the patient complained of a heavy feeling in the chest. She was very "short-winded."

On the first day of the following month she complained of headache, of pain in the jaw and of weariness. She was quite indifferent to her surroundings.

On the second of the month she was very short of breath. Examination of her urine showed the presence of a trace of albumin and of diacetic acid. The iron perchloride test was used for this determination. I directed that her bowel be washed out with a solution of bicarbonate of soda and that eight grammes (two drachms) of the bicarbonate of soda in solution be left in the rectum. Four grammes of bicarbonate of soda were subsequently given at hourly intervals. A mixture containing ammonium acetate and potassium citrate was then given. The patient was instructed to drink much water. Improvement began at once. Pus escaped from the lower end of the wound.

On the fourth of the month no diacetic acid was to be found in the urine.

On the nineteenth of the month the patient complained of pain in the lower portion of the left side of the chest. Subsequently the patient had attacks of pain and depression at intervals for the next five months.

The interesting points about this patient's condition are the following:

(i.) The anæsthetic used at the operation was ether.

(ii.) The vomiting was not severe or prolonged.

(iii.) The acidosis developed at a late stage. No anxiety was felt till five days after the operation. From this time anxiety increased till the correct diagnosis was made eleven days later and proper curative treatment was instituted.

(iv.) The symptoms were cardiac in type and were mainly dyspnœa, rapid pulse, gripping of the chest, præcordial pain, jaw ache, pains in the left shoulder and chest. The steady way in which the patient went down hill and the gradual oncoming of drowsiness suggested the presence of uræmia and finally led to the correct diagnosis.

(v.) Improvement was steady after the administration of abundance of water and alkalis. Short-windedness and depression occurred occasionally for months after recovery.

(vi.) Stitch abscesses occurred with the onset of the illness.

The Medical Journal of Australia

SATURDAY, SEPTEMBER 8, 1923.

Tuberculosis.

ON Saturday, November 17, 1923, there will be a full dress discussion on tuberculosis at a general session of the Australasian Medical Congress (British Medical Association). The key note of the whole Congress is to be prevention and it may therefore be anticipated that the problem of the prevention of tuberculosis will claim the attention of many of the several speakers. The public and, to a less extent, the medical profession seem always to be awaiting the announcement of a new and dramatic cure of this disease and of cancer. At the present time the lay press, always ready to gratify and pander to popular taste, loses no opportunity for the display of sensational headlines and for the publication of unreliable paragraphs on Spahlinger's treatment or on the work of Dreyer. Apart from the question of the actual importance of a curative remedy that would benefit the individual, these premature announcements find but little space in the medical press because every clinician and every pathologist knows full well that the efficacy of a remedy for a chronic disease like pulmonary tuberculosis cannot be established until it has been tried under varying conditions by numerous competent observers for a very long time. Spahlinger may be dismissed for the moment, since he refuses to adopt a frank attitude and since it is impossible to control his claims in the absence of a full disclosure of his methods of work. Dreyer and Ward have, it would seem, done good work in their studies in connexion with the tubercle bacillus and in their preparation of diaplyte vaccines. It is at present a little difficult to follow the possible action of partial antigens, although many workers have found evidence of a specific response to such substances when the whole bacterium does not appear to be possessed of a good antigenic action. Over twenty years ago the chemistry of the tubercle bacillus was carefully studied and it was assumed that its acid-fast quality was due to a chitinous envelope. Dreyer and Ward now present argument in favour of the hypothesis that the acid-fastness of the tubercle bacillus and the resistance to decolorization by iodine in Gram's staining method of other bacteria are dependent on lipoidal substances which can be removed by treatment with formaldehyde and extraction with acetone. If their claims can be substantiated that the tubercle bacillus, deprived of its lipoidal content, is capable of giving rise to antibodies in the animal body, a new conception of the immunity processes in tuberculosis would be created.

During the year 1922 there were 2,954 deaths from pulmonary tuberculosis in the Commonwealth. This fact demands the most serious attention of all hygienists and sociologists. The medical profession has not yet been able to provide reliable information concerning the number of infections and the ages at which the infections occur. An attempt is being made to collect data concerning the response of Australian children to the von Pirquet test, so that an idea may be forthcoming of the incidence of tuberculosis in the early years of life. It is also probable that the pathologists will present some facts concerning the relative frequency of active, latent and healed tuberculous lesions recognized in persons of all ages after death. Clinicians should endeavour to ascertain as far as this point can be elucidated where the infection occurred, whether in Australia or elsewhere. If the information to be given at the general meeting of Congress be ample, it should be possible to estimate the approximate mortality of tuberculosis acquired in Australia. In the next place it would be well if attention were paid to the questions of climate and density of population in their relation to the incidence and mortality of pulmonary tuberculosis. There are many other ætiological factors that should be taken into account. The more information of this kind than can be presented to the meeting, the better will be the chances of making a step forward in the prophylaxis. Until the fundamental facts have been collected and collated, it is futile to plan an extensive and energetic campaign aimed at the reduction of infection. The effect of good housing, of regulated sanitation in urban districts and of the removal of squalor, starvation and dirt has lowered the death rate in England and Wales from 39.9 per

10,000 living in 1838 to 8.9 in 1921. In Australia the death rate in 1900 was approximately 9.2 per 10,000 living, as compared with 13.3 in England and Wales. In the following ten or fifteen years there was a considerable fall, but since 1916 the mortality rate has apparently found a new level around 6 per 10,000 of population. Even in Edinburgh, where the incidence and mortality was appallingly high but a few years ago, the mortality rate has been reduced to about 4 per 10,000 in 1916. It would be well if we in Australia faced the problem without fear and with a determination to attack the source of infection instead of depending solely on the resistance of the people. The discussion in November should be the turning point in Australia's fortunes in this respect. All those who have studied this question from the clinical, pathological, ætiological, bacteriological and epidemiological points of view will meet and tell each other and the whole profession the results of their studies. There have been many other congresses at which tuberculosis has been either the main or the only theme. Progress has been made on every occasion when experts have met in this way for the purpose of debating a difficult question. There is no reason why this debate should not mark an unusual advance, since the opportunity is given for the closure of the old order of things and the launching of a new scheme based on the modern conception of prophylaxis. It will be worth while to join the Congress in order to be present at the general meeting on November 17, 1923.

Current Comment.

THE DURATION OF PREGNANCY.

IT is the teaching of many of the most competent obstetricians of today that labour should be induced when there is distinct evidence that the fœtus is post-mature. This implies that the pregnancy has outlasted its proper span and that its duration is normally limited to a definite period. While the expediency of terminating a labour when the fœtus is becoming so large that difficulty may be anticipated if the birth be delayed, is not questioned, the use of the term post-mature must be regarded as unfortunate. When a fœtus is born before the usual intra-uterine development is completed, it is regarded as premature, but it is obviously impossible to determine the exact point when prematurity terminates and maturity arrives. Similarly if the development of the infant has proceeded so far beyond the usual stage at the time of the birth, it is properly termed post-mature. But there is no criterion whereby the transition between maturity and post-maturity can be fixed. It must be remembered that physiological processes are slaves to time only within wide limits. Even the cardiac cycle and the respiratory rhythm may vary from the average under physiological conditions. Tachycardia and bradycardia are relative terms that can only be applied when the heart beat departs greatly from its average rate. Other functions of the body that follow a rhythm, may be subjected to a greater variation from the average. The duration of the stages of life are not definable. Childhood lasts long in some and may be short in others. Old age appears at different chronological ages in different people. It would be surprising if pregnancy should occupy a definite period under normal conditions. Rather would we expect that its duration would vary widely on either side of the average.

Dr. T. W. Eden has dealt in an admirable manner with the question of the duration of pregnancy from a medico-legal point of view.[1] He reminds his readers that one hundred years ago it was definitely laid down that forty weeks represented the longest duration of pregnancy after conception. It is now known that this view is incorrect and that the problem is one of great complexity. He attacks the problem from the point of view of the medical jurist who is concerned with the date of procreation when the paternity of an infant is in dispute. It may be that in some future time it will be possible to identify the child's father by some biological reaction, such as that determining the blood group. While Dr. Eden suggests this as a possibility, it would seem that it is unlikely that assistance will be forthcoming from this source, since the recognition of certain agglutinins and agglutinogens in the child's blood can only indicate that the same agglutinins and agglutinogens were present in the blood of its progenitors. No one would be peculiar to one parent, nor would the absence from the reputed father's blood of those forms which are present in the child's blood, be proof that that man was not the actual father. Dr. Eden endeavours to find some means of establishing the date of the fertilization of the ovum in its relation to the date of birth. The process of ovulation probably occurs every three or four weeks in variable relation to the occurrence to menstruation. Usually only one egg cell ripens at each ovulation and it has but a short life unless fertilized. It is held that it perishes in one or two days. On the other hand spermatozoa have a remarkable vitality. It is estimated that over two hundred million are ejaculated at one time. Many may perish, but some reach the Fallopian tube after a journey occupying about twenty-four hours. Living spermatozoa have been found in the uterus seven or eight days after insemination. Dührssen claims that he has found living sperm cells after twenty-three days. For these and other reasons it is extremely difficult to ascertain the exact date of the fertilization of the

[1] *The Lancet*, June 16, 1923.

ovum. It is probable that the time in its relation to menstruation varies in different individuals. Comparative physiology offers but little assistance in the endeavour to solve the problem. Breeders calculate the period of gestation from the date of a single copulation. In cows the period varies from 252 days to 320 days. The mean duration is 286 and the variation is 12.5% either way. In mares the variation lies between 311 and 394 days and the mean is 352. In women the duration of pregnancy calculated from the last day of the last period is said to last between 252 and 326 days, with a mean of 289 days and a variation of 13% either way. Reid has obtained figures calculated from a single coitus. The extremes were 260 and 294, which yields a mean of 277 and a variation of 6% either way. It is known, however, that two women in whom fruitful coitus has occurred on the same day, may be confined on dates far removed from one another. The uncertainty concerning the date of ovulation, the variability of the period of sojourn of living spermatozoa within the uterus and the fallacies connected with the relation of the last menstrual period to the date of fertilization of the ovum render calculations in an individual fraught with difficulty. Dr. Eden finds that in 81% of women the pregnancy terminates in the thirty-ninth, fortieth or forty-first week after the date of the last menstruation. It is, therefore, safe to assume that in the majority the birth will take place between 274 and 280 days after the last day of the last period or a week either earlier or a week later. If calculated from the date of coitus, the usual period is assumed to be 274 days. But in the case of the remaining 19% of women the duration of pregnancy will be shorter or longer. In one woman Taussig found the duration of three successive pregnancies to be 277 days, 325 days and 285 days. In this problem there is the added difficulty arising from the fact that the mechanism that brings about the termination of pregnancy, is still unknown.

Dr. Eden inquires whether the desired evidence can be gathered from the new-born infant. He is inclined to the opinion that, while the weight and length of the fœtus at birth varies considerably, there is little difficulty in recognizing a prematurely born infant from these measurements. Whitridge Williams found that the weight of the baby at term varies between 2,126 and 4,422 grammes, while Dr. Eden weighed premature infants after a pregnancy lasting thirty-six weeks and gives the results as between 1,814 and 3,175 grammes. At the twenty-eighth week of gestation the average weight is from 1,100 to 1,350 grammes. He has, therefore, not hesitated in declaring that a baby weighing 3,600 grammes could not possibly have been begotten six and a half months or twenty-eight weeks before birth. The prematurity of such an infant would be obvious. Turning to the question of protracted gestation, he refers to Gaskill's celebrated case in which the infant was supposed to have been born after a gestation lasting 331 days. His observations have taught him that a post-mature infant weighs at least 4,500 grammes. In authenticated instances of protracted gestation lasting between 311 and 336 days the weight of the infant lay between 5,200 and 6,000 grammes. The majority of the infants weighed 65% more than the average infant born at term. He thus arrives at the conclusion that while it is impossible at present to determine the exact commencement of any given pregnancy and while there is considerable variation in the duration of normal pregnancies, it is possible to express a positive opinion from the weight, length and other physical characters of the infant whether the duration of the gestation was considerably shorter or longer than the average in a given instance.

THE VITAL CAPACITY AND HYPERTHYREOIDISM.

THERE is a growing tendency evident among modern clinicians to accept the estimation of the basal metabolism as an indication of the degree of excessive thyreoid activity. It is not suggested that the disturbance of metabolism in Graves's disease is the essential physiological manifestation, but merely that this is a physiological expression of part of the effect of the hyperactivity of the thyreoid gland. It is, therefore, not surprising to find that other vital physiological processes should undergo a change more or less proportionate to the degree of glandular abnormality. Dr. I. M. Rabinowitch has made some interesting observations on the vital capacity of persons suffering from hyperthyreoidism.[1] In the first place he determined the vital capacity of fifty normal or apparently normal persons and expressed this in relation to the measure of the body surface. He realized that the experimental error in measuring the vital capacity is considerable and, consequently, that any attempt to introduce refinements in the shape of corrections in the readings would be futile. From his own observations and from those of West, he accepts 2.0 as the normal figure for females and 2.5 for males, with a variation of 10% above or below these figures. They mean the number of litres of air expired per square meter or body surface. In the next place he found by direct experiment that the vital capacity measured when the subject was in the recumbent position was above 7.5% less than when measured in the upright posture. In a number of persons suffering from hyperthyreoidism the basal metabolic rate and the vital capacity were measured. It was found that when the basal metabolic rate was between 90% and 100% above the normal, the vital capacity was but 42% of the normal. When the basal metabolic rate was less high, the vital capacity was not so greatly reduced. Finally in those persons whose basal metabolic rate was only 20% above the normal the vital capacity was 79% of the normal. Patients with a vital capacity of 40% of the normal or less were bed-ridden. The author suggests that this reduction of the vital capacity may explain the dyspnœa observed in severe hyperthyreoidism, when a chemical stimulation of the respiratory centre or cardiac embarrassment can be excluded.

[1] *Archives of Internal Medicine*, June 15, 1923.

Abstracts from Current Medical Literature.

MEDICINE.

The Blood Sugar Threshold for Glycosuria.

KNUD FABER (*Wiener Medizinische Wochenschrift*, June 23, 1923) affirms that the blood sugar threshold for the appearance of glycosuria is a constitutional constant for each individual. The blood sugar value at which the kidneys begin to secrete glucose, it is true, shows wide variations for different individuals, but for the same individual it is constant. For the well-known facts that in certain individuals a so-called renal glycosuria exists without hyperglycæmia and in others a transitory, cyclical glycosuria occurs after meals rich in carbo-hydrates, an explanation must be sought in the view that these persons have a threshold of low value. In these cases there is no disease of its islets of Langerhans, no actual anomaly of metabolism. The author denies the view held by many that in true "pancreatic" diabetes the threshold fluctuations according to the degree of glycosuria, the length of the illness and especially the efficacy of treatment. This erroneous view he attributes to the difficulties with which the estimation of the blood sugar threshold is associated. The course usually followed is to estimate the blood sugar value in the morning and to compare with it the glucose content of the urine. But the results are unreliable. The actual time at which the urine was secreted, is unknown and the blood sugar undergoes constant variations even on the morning after a fast. The best and simplest method is to give the patient during a sugar-free stage a certain amount of sugar or starch and to plot out the blood sugar curve during the resulting hyperglycæmia. If the patient can be persuaded to pass urine frequently, it may be observed at what blood sugar values glycosuria begins and ends. The blood estimations must be made frequently, preferably every five minutes. It is a noteworthy phenomenon that when these curves are traced, it is found that sugar is not excreted during the rise of the blood sugar curve. Only at its crest or during its descent does sugar appear in the urine. If the point immediately prior to the appearance of glycosuria and the point immediately following its disappearance are noted on the curve, the two values will be found to vary considerably. It is necessary to choose two administrations of glucose, the first of which leads to glycosuria, while the other does not. The threshold lies between the crests of these two curves. Using this method at the University of Copenhagen, the author found marked variations in the threshold of various diabetic patients, the value lying between 0.1% and 0.2%, but sometimes reaching as high as 0.23%. In every instance but one the threshold was constant for the individual. In the one exception the value lay between 0.16% and 0.19% at the beginning of treatment and was over 0.21% at the end. The existence of this constant has a practical bearing on the treatment of diabetes. By tolerance for carbo-hydrate is usually meant the amount of carbo-hydrate, as in bread, which the patient can consume without the appearance of glycosuria. If treatment has so far advanced that the patient is sugar-free in the morning without food, the appearance of glycosuria will depend in part on the degree to which the fasting blood sugar value rises and as soon as it exceeds the threshold, glycosuria results. If the blood sugar value in the fasting state has been brought to a normal level, the patient with a threshold of 0.20% will have a greater sugar tolerance than another with a threshold of 0.16% or under. But more important still is the fact that if the patient is given fifty grammes of bread in one meal, his blood sugar value may rise above the threshold and cause glycosuria, whereas if given twenty-five grammes in the morning and twenty-five grammes in the evening, his urine may remain sugar-free. A patient's tolerance is not the amount of carbo-hydrate which he can consume in the course of a day without glycosuria resulting, but the amount he can enjoy at a single meal. Hence comes the therapeutic rule that carbo-hydrate fed to a diabetic subject should be divided over two or three meals in the day.

Physical Signs in Pulmonary Tuberculosis.

HENRY F. STOLL (*The Journal of the American Medical Association*, June 9, 1923) has commented on certain physical signs in the diagnosis of pulmonary tuberculosis. In the detection of early lesions percussion is much less trustworthy than auscultation. The most significant auscultatory signs are râles. To elicit them properly, the practitioner should ask the patient to expel the reserve air from his lungs by a forced expiration terminating in a cough. The air vesicles will then be compressed and their mucus-coated surfaces approximated. With the succeeding respirations these walls are suddenly torn apart and râles are heard. The common admonition to take a deep breath often fails to elicit râles. Bray has found that only 23% of patients with incipient pulmonary tuberculosis exhibit râles on deep breathing alone, while these adventitious sounds are audible in 76.5% if expiration and cough precede. Even in advanced disease only 27% of patients manifest râles when coughing is not employed. The whole chest area should be auscultated, especial care being given to the area adjacent to the spine of the scapula from the second to the fourth thoracic spines, the supra-clavicular and infra-clavicular regions and laterally the region under the lower edge of the *pectoralis major* muscle. Râles may be audible in the latter area when they cannot be detected elsewhere. The arm should be bent at the elbow, so as to allow the stethoscope to be pushed beneath the relaxed muscle. In the lateral and antero-lateral aspects of the chest, especially in long, slender persons, showers of fine, crepitant râles are often heard during the latter part of inspiration below the level of the transverse mammary line. Always heard on both sides of the chest, they are not signs of pulmonary disease or of any pathological condition and are relatively drier than those heard in persons with tuberculosis. Several deep inspirations will cause them to disappear, while forced expirations will lead to their re-appearance. They are possibly due to the expansion of compressed air in the lower part of the lung or, as Bushnell believes, to the stripping-off of the diaphragmatic from the parietal layer of the pleura. Infection of the sinuses of the nose which "spill over," as it were, causing bronchitis of the larger tubes, may simulate tuberculosis and even lead to the production of râles. Syphilitic bronchitis is another source of error. Hæmoptysis, not due to mitral stenosis, should always be ascribed to tuberculosis even in an apparently healthy, robust person. Insidious pleurisy with effusion should be considered tuberculous and so treated.

Focal Infection.

E. C. ROSENOW (*Annals of Clinical Medicine*, January, 1923) reports the results of a large number of experiments on rabbits, dogs and mice to determine the elective localization of the streptococcus-pneumococcus group as a factor in the production of disease. Striking changes in virulence and in localizing power were noted as changes in morphology and cultural characteristics were induced experimentally, as for example through animals. At the lower grades of virulence lesions occurred in the relatively avascular tissues, such as heart valves, joint structures and tendinous ends of muscles, while later iritis, myositis, ulcer of the stomach, cholecystitis and focal lesions of the kidneys were more prone to occur. As the virulence became high lesions in the lungs and death from bacteriæmia commonly occurred. Thus a pneumococcus isolated eleven years previously was passed through eighteen animals; it produced no lesions in the first fifteen, but produced ulcer of the stomach twice and iritis and conjunctivitis twice between the fifteenth and twentieth passage: similar results were obtained with a streptococcus previously isolated from rheumatic fever. Streptococci from an apical tooth granuloma of a woman with iritis produced iritis, lesions of nerve trunks and lesions of the tooth pulp in three albino rabbits. Cultures were made from the tonsils, teeth and gums of a man with peripheral neuritis of unknown origin. Two lesions of animals were injected with these cultures and lesions of the peripheral nerves, with localization of streptococci in the nerves, occurred in 79%. Streptococci from foci in patients with

myositis produced myositis in animals in a large large number of experiments. The microscopic lesions of the excised muscles in man were similar to those in animals and the organism was demonstrated in the lesions. Lesions were also produced in the sciatic nerve and other large nerve trunks in animals and localization in the bundle of His with the development of arrhythmia occurred following the injection of cultures from pyorrhœal pockets of a patient suffering from impaired myocardial conduction not due to syphilis. Further examples of the tendency to localization in specific tissues was shown with organisms recovered from a patient suffering from nephritis and from a patient with renal calculus: the former produced nephritis and the latter renal stone when inoculated into dogs. Inoculation in these experiments was made intravenously, intraperitoneally, into the lungs and into the nose and in most instances specific localization of the organism occurred in the tissues for which it had shown predilection in man. An organism constantly isolated from patients with epidemic encephalitis produced spasm of the diaphragm in a high percentage of animals following intracerebral inoculation. The author claims that this shows the relationship between the above disease and epidemic hiccough.

Brachial Plexus.

A. W. ADSON (*North-West Medicine*, February, 1922) has reviewed the literature of injuries to the brachial plexus and publishes the results of treatment of these injuries in one hundred and one cases at the Mayo Clinic. Forty-five patients suffering from birth palsy and fifty-six patients with other brachial plexus injury have been examined. In the patients under two years of age, approximately one-third showed return of function; in those under five return of function was manifested in approximately one-half and in those over five years the proportion was about one-half. The results of operation for these injuries have not been satisfactory and the author recommends non-operative treatment for at least some months after the injury, that is, massage, movements and splinting to prevent deformity and aid return of function. He considers that recovery of function occurs mainly in the first three months, but that improvement may occur for twelve months.

Prevention of Graves's Disease.

ISRAEL BRAM (*Endocrinology*, May, 1923) maintains that the ideal prophylaxis of Graves's disease should begin in infancy and extend well into adult life, the object being an attempt at perfection in hygienic, dietetic and mental discipline. During childhood school and home life should be well ordered. Excessive feeding with flesh foods, over-study, unsuitable companions and wild and immoderate excitement must be avoided. During the restlessness of puberty and adolescence thoughtful and scupulous guidance should be given to the emotionalism and instability of reasoning processes which the young person displays. An attempt should be made to adjust the circumstances of life to the peculiarities of the individual and to modify the individual's peculiarities to the circumstances of life. The strenuous life of the times—the mad rush for wealth and the equally mad tear to spend it, coupled with the implications of illicit love and matrimonial difficulties—play their part in the causal relationship of the disease. It should be realized that the question involved is not that of "a lump in the neck." A subject of Graves's disease is no more a victim of goître than a sufferer with enteric fever is a victim of splenomegaly. This disease should be eliminated from the classification of goître. Simple goître is local, while Graves's disease is a generalized condition. Hyper-thyreoidism can be produced by the ingestion of thyreoid extract; Graves's disease cannot be so produced. Though the syndrome of Graves's disease presents evidences of thyreo-toxæmia, there are likewise signs of disordered function of the entire chain of endocrine glands and of the vegetative nervous system.

Angina Pectoris.

S. A. LEVINE (*The Journal of the American Medical Association*, September 16, 1922) discusses the outstanding features of one hundred and three patients who suffered with *angina pectoris*. He considers that the term should only be used to describe a condition in which there are attacks of oppression, constriction or pain, generally sub-sternal, especially related to effort and associated with other symptoms such as mental apprehension, fear of death, dyspnœa, immobility and pallor or perspiration. Further, the diagnosis should mean that the patient is likely to die suddenly. In his series there were sixty-eight males and thirty-five females. The average age was fifty-four years and the patients generally had been strong and sturdy and free from disease in earlier life. A reaction to the Wassermann test was obtained in 7% of the patients, seven had diabetes, five had gout and four had valvular disease of the heart. Arterio-sclerosis was much the most common pathological condition found. The average systolic blood pressure was one hundred and sixty millimetres of mercury. The blood pressure generally increased considerably with the onset of an attack; nitro-glycerine lowered the tension and shortened the attack. Clinical evidence of disease of the heart, except for some slight enlargement and a faint first sound in some instances, was remarkable for its absence. The author found that nearly all patients who came to autopsy, had recent infarction of the heart due to blocking of a coronary artery. Attacks of angina associated with cardiac infarction last much longer and are much more severe than the ordinary attacks; the temperature is usually raised and a leucocytosis is present. There are patients in whom the attacks are characterized by abdominal symptoms simulating those of an acute abdominal lesion.

Measles.

C. HERRMANN (*The Medical Press and Circular*, November 22, 1922) discusses immunization against measles by injection of serum of patients convalescent from measles, and by inoculation with the nasal discharge of patients. The latter method has been employed by him in one hundred and sixty-five children at the age of five months. Seventy-five of these children were observed for four to eight years; only five of them contracted measles, though forty-five were exposed directly to infection. The nasal discharge of patients free from other disease is taken twenty-four to forty-eight hours before the appearance of the eruption. It is treated to free it from microorganisms and then inoculated on to the nasal mucosa of the child to be immunized. In eighty-five of the one hundred and sixty-five children treated there was a rise of temperature on the eighth to sixteenth day and a few spots appeared on face and body. The author suggests that this method is analagous to the inoculation against small-pox originally practised by Jenner.

Supra-Clavicular Depressions.

H. A. BRAY AND A. H. DUERSHNER (*The Journal of the American Medical Association*, June 9, 1923) have investigated the significance of depressions above the clavicle. Early observers found these excavations a constant sign in pulmonary tuberculosis, but were not wont to make a diagnosis till the pulmonary lesion was advanced and the patient emaciated. The authors insist that depressions invariably appear with emaciation, whatever its cause, and find no immediate causal relationship in the tuberculous process existing in the apices of infected subjects. Depressions above the clavicle may occur in perfectly healthy persons and are of doubtful value in the diagnosis of early pulmonary tuberculosis.

Morphine Habit.

M. VIVIAN (*The Medical Press and Circular*, November 29, 1922) states that she has found emetine to be a valuable aid in the treatment of patients suffering from the morphine habit. Her plan is to reduce very gradually the dose of morphine to 0.06 gramme (one grain) a day, several weeks being allowed for this reduction. The dose 0.06 gramme a day is then reduced over a period of six to twelve months by five milligrammes at a time until no morphia is taken. Emetine hydrochloride is given hyperdermically from the first, 0.01 gramme thrice daily for one or two months and then 0.01 gramme twice a day until the treatment is completed. The author quotes Paton as her authority for this treatment and refers to his statement that emetine is a specific for alcoholism and for some forms of neurasthenia associated with dyspepsia, irregular action of the bowel and feeling of fatigue.

British Medical Association News.

WAR MEMORIAL.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on August 3, 1923, DR. D. A. CAMERON, the PRESIDENT, in the chair.

THE PRESIDENT unveiled the War Memorial Tablet, a brass mural tablet on which the following appears as inscription:

To the Memory of

JOSEPH DAVID BUCHANAN
KENDALL HAMMAND
RONALD LENNOX HENDERSON
JOHN FITZMAURICE GUY LUTHER
HAROLD FREDERICK HOOD PLANT
SAMUEL JABEZ RICHARDS

MEMBERS OF THE
BRITISH MEDICAL ASSOCIATION
(QUEENSLAND BRANCH)

WHO DIED WHILE ON ACTIVE SERVICE
DURING THE GREAT WAR
A.D. 1914-1919.

The President said: "There are many present who were here on the night of August 4, 1914. Certain resolutions were passed and one in particular offered the services of the Branch in any capacity to the Principal Medical Officer. The Branch carried out that offer in no uncertain way, for one hundred and sixteen members went overseas during the war. The majority returned in perfect health; a smaller proportion returned with some disability which did not incapacitate them for work, though it did so in sport; others returned permanently disabled and their end was accelerated by war service. A notable example was our late Principal Medical Officer, Colonel Alfred Sutton, V.D., C.M.G., who had made a hobby of Australian Army Medical Corps work and was responsible for the state of efficiency of the Corps at the outbreak of the Great War. A small number never returned and this Memorial Tablet has been erected to their memory. They did their duty and made the great sacrifice, dying in the service of their country."

APPOINTMENT OF VICE-PRESIDENTS.

IN the supplementary Report of Council of the British Medical Association for the year 1922-1923 there is a recommendation to the effect that Mr. George Adlington Syme, Dr. Robert Henry Todd, Dr. Harry Edward Gibbs, Dr. Wilfred Watkins-Pitchford and Dr. Dugald Campbell Watt be made Vice-Presidents of the Association. On June 13, 1923, the nominations were endorsed. The election by the Representative Body of these gentlemen will have taken place on July 20, 1923.

A short notice of each of the new Vice-Presidents is published in the Report of the Council. Mr. Syme has been a member of the Association since 1888. He is Chairman of the Federal Committee of the British Medical Association in Australia. He has been Vice-President and President of the Victorian Branch, a member of the Council of the Victorian Branch for a period of twenty-five years and is the President-Elect of the Australasian Medical Congress (British Medical Association).

Dr. R. H. Todd has been a member since 1886. He has been Secretary of the New South Wales Branch since 1910 and a member of the Federal Committee of the British Medical Association in Australia since its inception. He had been specially associated with the recent alteration of the regulations of the Association to permit of the incorporation of the Australian Branches and is recognized as the chief moving spirit in every development of the Association's work in Australia.

Dr. H. E. Gibbs has been Honorary Secretary of the New Zealand Branch since 1908 and is well known to many Australian practitioners. He has done pioneer work on behalf of the Association in New Zealand.

Dr. W. Watkins-Pitchford, the genial Director of the South African Institute for Medical Research, has worked strenuously for the British Medical Association in the Rand. He is at present a visiting member of the Pan-Pacific Congress in Melbourne and Sydney.

Dr. D. Campbell Watt is also a prominent Association worker. His record in the Natal Branch is a fine one.

There are in addition to the five new Vice-Presidents eight others, of whom one is Dr. W. T. Hayward, of Adelaide. Australia has thus three out of the thirteen.

We offer our hearty congratulations to the new recipients of this honour and particularly to Mr. Syme and Dr. Todd.

MEDICO-POLITICAL.

A MEETING OF THE WESTERN AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Perth Hospital on July 18, 1923, DR. D. W. MCWHAE, the PRESIDENT, in the chair.

Spiritual Healing Mission.

DR. J. J. HOLLAND called attention to a notice in a newspaper to the effect that a committee of medical men would act in connexion with the mission of Mr. Hickson. It was resolved to publish in the lay press the resolutions passed at the meeting of the Branch on June 20, 1923, and at the meeting of the Council on July 11, 1923, as follows:

> (i.) That members of the Western Australian Branch should not actively associate themselves in any way with the Mission.
>
> (ii.) That the Branch is of opinion that, in order to test thoroughly the cure or otherwise of persons treated by any faith healing method, it is necessary that the diagnosis should be first made by competent medical men, preferably by one or more specialists in that disease, and that after the patient has undergone treatment by faith healing, the patient should again be examined by the same medical men. Only in this way, the Branch thinks, can any satisfactory opinion as to the value of faith healnig from a medical point of view be arrived at.

Infant Welfare and Ante-Natal Clinics.

The Council reported (i.) that the action of medical practitioners in carrying out the work in infant welfare and ante-natal clinics was not methodical and (ii.) that these clinics should be available to every medical practitioner in the district, should he desire to take up the work. It was further suggested that the Council should get in touch with those responsible for the establishments of these centres in order that a list might be prepared of medical practitioners who were willing to undertake work in the clinics.

On the motion of MR. F. A. HADLEY, seconded by DR. R. C. E. ATKINSON, it was resolved that the report be adopted.

Treatment of Accidental Injuries.

A report of the sub-committee appointed to consider a scheme for the treatment of accidental injuries was submitted. The report was discussed and it was resolved that a committee of five members be appointed to go into the details of the scheme.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

BINNS, JOHN CLYDE, M.B., Ch.M., 1922 (Univ. Sydney), 87, Shirley Road, Wollstonecraft.

BURSTAL, ALBERTO CHARLES CLUBBE, M.B., Ch.M., 1921 (Univ. Sydney), Coast Hospital, Little Bay.

COOMBE, CHARLES WALTER, M.B., Ch.M., 1922 (Univ. Sydney), Denver Road, Five Dock.
DODSON, GEORGE HIRST, M.B., Ch.M., 1921 (Univ. Sydney), 43, Seymour Street, Croydon Park.
GRIEVE, HERBERT RONALD ROBINSON, M.B., Mast. Surg., 1920 (Univ. Sydney), Weedon Road, Artarmon.
HARBISON, JOHN KENNETH, M.B., Ch.M., 1922 (Univ. Sydney), High Street, West Maitland.
HYNDES, KATHARINE, M.B., Ch.M., 1922 (Univ. Sydney), Marrickville Road, Marrickville.
LAWES, CHARLES HENRY WICKHAM, M.B., Ch.M., 1923 (Univ. Sydney), New Canterbury Road, Petersham.
LOUDON, DERBY BRITON, M.B., Ch.M., 1923 (Univ. Sydney), 40, The Boulevard, Lewisham.
MCCLEMENS, DOROTHY MARY, M.B., Ch.M., 1921. (Univ. Sydney), Kulgoa Road, Bellevue Hill.
MONEY, REGINALD ANGEL, M.C., M.B., Ch.M., 1923 (Univ. Sydney), Royal Prince Alfred Hospital, Camperdown.
OLVER, LLOYD REATH, M.B., Ch.M., 1922 (Univ. Sydney), Victoria Avenue, Chatswood.
RAMSAY-SMITH, VIVIAN, M.B., Ch.M., 1913 (Univ. Edin.), University Club, Sydney.
SCHMIDLIN, FRANK, M.B., Ch.M., 1922 (Univ. Sydney), St. George District Hospital, Kogarah.
SHELLSHEAR, KENNETH EDEN, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Mitchell Street, Greenwich Point.
VICKERY, COLIN EDWIN, M.B., Ch.M., 1923 (Univ. Sydney), Strathfield Avenue, Strathfield.
WISE, ALLEN GLENDENNING, M.B., Ch.M., 1923 (Univ. Sydney), Florence Street, Strathfield.

THE undermentioned have been elected members of the Queensland Branch of the British Medical Association:

LANE, MURIEL SHIRLEY, M.B., Ch.M., 1921 (Univ. Sydney), Brisbane.
SHEPHERDSON, RUPERT FARQUHAR, M.B., Ch.M., 1923 (Univ. Sydney), Brisbane.

Medical Societies.

MELBOURNE PÆDIATRIC SOCIETY.

A MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY was held at the Children's Hospital, Melbourne, on July 11, 1923, DR. A. E. ROWDEN WHITE in the chair.

Congenital Hypertrophy of the Pylorus.

DR. R. M. DOWNES, C.M.G., read a paper entitled: "Congenital Hypertrophy of the Pylorus: Its Surgical Treatment" (see page 243).

DR. STEWART FERGUSON, in opening the discussion tendered his congratulations to Dr. Downes and remarked that the excellent results attending surgical measures in the treatment of pyloric stenosis precluded any debate as to the relative merits of medical and surgical treatment.

The subjects of pyloric stenosis and pyloro-spasm interested him particularly from the medical point of view and he wished to emphasize the fact that many infants, although exhibiting the vomiting, constipation and failure to thrive of the former condition, responded in the most satisfactory manner to careful regulation of the diet. Irritability of the stomach frequently stimulated hypertrophic stenosis of the pylorus very closely, but it should be possible to arrive at a decisive diagnosis in one or other direction. In this connexion he employed the barium meal and examination by the fluorescent screen as a routine measure.

In instances of genuine pyloric stenosis there was to be seen at intervals of six, twelve or even eighteen hours after the ingestion of the meal, a globular mass of barium (or bismuth) lying inert in the bottom of the stomach; there was no outlining of the organ and when the baby was turned on to his right side, the mass in the stomach remained inert. If the infant were turned round on his own axis, the opaque bolus would be seen to revolve in the dilated stomach. On the other hand in cases of spasm of the pylorus a considerable amount of the barium would be seen to have passed on and pyloric action was recognizable.

He based his decision as to medical or surgical treatment on the information gained by X-ray examination and the clinical evidence regarding the presence of a palpable tumour in the epigastrium. Once the diagnosis of hypertrophic stenosis of the pylorus was established, he advocated operation without delay. He had seen too much inefficient medical treatment in pyloric stenosis to be content to persevere for even a short period after its presence was defined.

Continuing, Dr. Ferguson said that he regarded medical treatment as indicated in those cases in which bismuth left the stomach and pyloric action could be observed by X-ray examination. The objective was to feed in such a manner that the food remained fluid in the stomach. Milk, for instance, was inadmissible on account of the tough curd formed in the stomach and a high proportion of fat in the diet was disadvantageous in that it resulted in prolonged retention in the stomach. He generally used condensed milk or Horlick's "Malted Milk," in both of which foods there was a high proportion of sugar. To either of these, if well tolerated, protein in the form of "Plasmon" could be added later and either served as a vehicle for the introduction of milk which was to be substituted in quantities of four cubic centimetres (one fluid drachm) at a time. The administration of sodium citrate was advisable to counteract the hyper-acidity. Observations carried out by American workers had shown that hyperacidity was constantly present.

In conclusion Dr. Ferguson said that he had found gastric lavage of very doubtful utility and very exhausting for the infant. Persistence in lavage seemed to be indicated when a large return was obtained in the washing some hours after a feed, but in such a case it was extremely probable that the child required operative treatment. He had tried the various anti-spasmodic drugs, but had found them very disappointing. It was to be remembered that infants affected with pyloro-spasm required months of careful dietetic supervision.

DR. R. L. FORSYTH said that he spoke as a convert to surgical treatment. He had formerly been an advocate of medical as against surgical methods in dealing with pyloric stenosis, but he was of opinion that once this condition was diagnosed operative treatment should be undertaken without delay.

In the days when he was a resident medical officer at the Children's Hospital medical treatment had been carried out more frequently and perhaps with greater perseverance than obtained at the present time on account of the very high mortality attending the operative measures then in vogue. He recollected that they had resorted to regular lavage and chose a food which did not clot in the stomach: if the infant vomited he had been fed again soon and eventually the food had been retained by reason of exhaustion of the reflex which occasioned the vomiting. While the mortality rate had certainly been higher than that of the surgical series of Dr. Downes and those of others quoted by him, he did not think it had been as high as 50%, which figure Dr. Downes had given as the mortality rate under medical treatment.

Dr. Ferguson had discussed the management of those infants in whom it was decided that the vomiting was due to pyloro-spasm as distinguished from hypertrophic stenosis and he was in accord with him in his advocacy of alkaline food of such a nature that it remained fluid in the stomach. Frequent measured quantities of such foods should be given and if the baby vomited he should be fed again as soon as possible. It was important that infants of the type under discussion should receive plenty of fluid and of late the introduction of saline solution by the intraperitoneal route had been commonly practised. Had Dr. Downes noticed any undesirable effects of the intraperitoneal saline injections? Dr. Forsyth congratulated Dr. Downes on his excellent results and said that he would never retain under medical treatment for longer

than a week or ten days a child in whom the diagnosis of pyloris stenosis was established.

DR. H. DOUGLAS STEPHENS congratulated Dr. Downes on his interesting and lucid paper and on the results he had obtained in the surgical treatment of pyloric stenosis. The recovery of sixteen out of eighteen of these babies was an excellent record.

He had performed various operations on a large number of infants for the relief of pyloric stenosis, but as yet had not assembled any figures relating to the series. He recollected one child in whom he had carried out the Loreta operation and several in whom he had performed gastro-enterostomy. The result of the Loreta operation was disastrous and as far as he knew only one child of the gastro-enterostomy series was alive. He now restricted himself to the Rammstedt operation, a procedure in which the results were infinitely better, and in fact so good was the outcome to be anticipated from this operation that it should be undertaken as soon as the diagnosis of pyloric stenosis was determined. He was convinced that medical treatment should not be maintained a day longer than could be helped.

As having some bearing on the much discussed congenital origin of hypertrophic stenosis of the pylorus, Dr. Stephens mentioned that in two of his patients there had been co-existent congenital heart disease. If he recollected aright, an instance had been recorded in which hypertrophy of the pylorus occurred in the fœtus.

An interesting association of the disease which had come under his notice was asthma in the mother. Of two children, both highly nervous in type, one had been affected with pyloric stenosis and the other had exhibited laryngo-spasm. In another family the mother had been the subject of goitre. Her first child had died from the effects of pyloric stenosis and the second had simulated this condition very closely, but as the infant had registered a gain in weight of sixty grammes (two ounces) per week, he had declined to operate. A third child had exhibited features of pyloro-spasm, but in a much milder degree.

Dr. Stephens said that he had had no experience in infants of the conditions described as duodenal stricture or of that in which the superior mesenteric vessels cut off the third part of the duodenum.

He had found X-ray examination in private practice very disappointing as the infants so frequently vomited the whole of the barium meal before the screen examination was carried out.

In operating he followed the same technique as had been described in detail by Dr. Downes. Occasionally when the pathological process was of relatively long duration the feeling of induration extended for some distance into the pyloric antrum and in such condition three or four millimetres (one-eighth of an inch) beyond the pylorus was far enough to carry the incision. It was sometimes necessary to give the latter a sinuous character in order to avoid a fairly large vessel which traversed the surface of the pylorus. A wide separation of the edges of the incision was essential for success.

Careful and experienced administration of the anæsthetic was a necessary factor in successful operating for pyloric stenosis. He had seen the operation interrupted and held up by spasm of the diaphragm and costal muscles. This muscular spasm seemed to be related to that of the stomach musculature and he had wondered if the preliminary lavage were a factor in its production.

A proper average time for the performance of the Rammstedt operation was fifteen to seventeen minutes. He considered that persistent vomiting, twenty-four hours after the operation and after recovery from the anæsthetic, indicated a bad outlook.

In two instances in his experience convulsions and death had supervened some days after the operation at a time when the baby was apparently doing well. Downes, of New York, had recorded death following convulsions on the tenth day after operation for pyloric stenosis and had connected the untoward occurrence with the enlarged thymus which had been found *post mortem*.

An autopsy had been obtained in the case of one of the babies to whom Dr. Stephens had referred as dying in this manner, but no enlargement of the thymus or other explanation had been discovered.

He recollected two instances in which peritonitis had followed the Rammstedt operation for pyloric stenosis; in neither had there been any damage to the mucous membrane and in both the cause had appeared to be that the "through and through" sutures of silk-worm gut were drawn too tightly. Swelling of the tissues with some necrosis had ensued and bacteria had thus gained access to the peritoneum.

In conclusion Dr. Stephens said that he had found condensed milk, whey milk mixtures and "Bengerized" milk the foods of choice in the medical treatment of pyloris stenosis and pyloro-spasm. Some authorities changed the food frequently and a respite from vomiting was often observed with every change.

DR. DOUGLAS GALBRAITH, whilst congratulating Dr. Downes on his splendid results, forming as they did a very strong argument for the policy of immediate operation in pyloric stenosis, found that a comparison of the statistics relating to medical and surgical treatment in the various cliniques throughout the world did not reveal any evidence of a larger proportion of cures by the latter method.

Findlay's results in Glasgow (83% cured) and Thomson's in Edinburgh (78% cured) compared favourably with those from any of the surgical cliniques. Having been associated with Dr. Findlay and having seen the progress of these infants under medical treatment, he would like to describe briefly the routine adopted.

Treatment was directed towards relieving the spasm which was looked upon as the predominating factor in the disease. A carefully adjusted, adequate diet and intelligently applied stomach lavage were the means relief on to effect a cure. The lavage was given twice daily, half an hour before a feed, a solution of sodium bicarbonate in warm water being used and two or three ounces of the solution being left in the stomach at the end of the washing. Still had described gastric irritation and even a blood-stained return after lavage. These should not occur if the procedure were carefully carried out and the very large majority of infants tolerated it wonderfully well; in fact, it often seemed to occasion little or no discomfort. But to be successful lavage should be carried out only by one skilled in the procedure. The much better percentage of cures in private practice was probably to be explained in part by the fact that the lavage was usually carried out personally by the physician in charge.

With reference to diet, Dr. Galbraith said that the general tendency had always been to under-feed and this appeared to be why medical treatment in some hands had had such little success. Findlay gave small feeds frequently, generally commencing with forty-five cubic centimetres (one and a half ounces) of peptonzied milk every two hours and increasing by eight cubic centimetres (two fluid drachms) at a time. The period of peptonization was gradually reduced and finally citrated whole cow's milk was substituted. An important point was the immediate repetition of a feed which had been vomited; the spasm appeared to expend itself in ejecting the stomach contents and the second feed was nearly always retained.

Of drugs, the only one used with any success was *pulvis cretæ aromaticus cum opio* which was administered in doses of 0.12 gramme (two grains) three times daily.

The details were the important factors in the treatment—the preservation of the child's vitality by heat and by skilled nursing, the careful regulation of the amounts and times of the feeds and the intelligent use of the stomach lavage. If these were attended to the outlook for infants treated medically was as good as that for those in whom surgical methods of relieving the obstruction were adopted.

DR. J. W. GRIEVE said that during the previous three years he had had opportunity of following the progress of

all the babies affected with pyloric stenosis admitted to the Children's Hospital.

The series consisted of thirty-three and included many of the patients operated on by Dr. Downes. In analysing the case-histories, he (Dr. Grieve) had been impressed by two outstanding facts. In the first place there were the large number of recoveries after the Rammstedt operation, there having been only four deaths in twenty-six operations and secondly the high mortality rate attending medical treatment. All of six infants treated by medical methods had died. In the remaining one posterior gastro-enterostomy had been performed and death had followed.

The other points of interest could be considered best under several headings. In regard to the condition of the bowels, constipation of a more or less obstinate character had been noted in twenty-six, but in the remaining seven the bowel actions had been rather frequent or normal in number. An examination of the stool, however, had invariably revealed a small "starvation" stool consisting of mucus and a very little fæcal material. The usual history of vomiting and constipation was therefore not constant and its absence might lead to confusion.

In regard to the presence of a tumour, Dr. Grieve said that in twenty-nine of the thirty-three babies a tumour had been palpable. Great patience was required in some and a general anæsthetic in a few in order to obtain sufficient relaxation for palpation of the pylorus.

In discussing the value of barium meals, Dr. Grieve pointed out that in a few it had been impossible to follow the course of the meal on account of the persistent vomiting. Twenty patients, however, had been given satisfactory meals and of these thirteen had shown at least a twelve-hour delay. Five had exhibited prolonged retention of the meal in the stomach, but in the remaining two the stomach had been empty in three hours. Both these infants had died and *post mortem* examination had revealed the characteristic thickened pylorus. In a number some of the barium had been recovered in the return of the gastric lavage twenty-four hours after the administration of the meal.

In regard to the post-operative treatment complications after the Rammstedt operations had been few and the majority of the babies had made an uneventful recovery. Most of them had vomited for two or three days following operation. Certain writers had laid great stress on the care required in the post-operative feeding and had advocated withdrawal of the breast milk for purposes of dilution for the first few days. In the series he was discussing the diet had not presented much difficulty for the infants had seemed to do perfectly well on small feeds to which additions were gradually made. The administration of alkali and of plenty of boiled water seemed to be of definite value. Diarrhœa had not been a complication.

Several of the babies had died suddenly. This sudden collapse had occurred under both medical and surgical treatment. *Post mortem* examination had not disclosed any undue enlargement of the thymus gland.

In concluding, Dr. Grieve stated that he had been very much impressed with the response of several dyspeptic babies, in whom persistent vomiting had been a feature, to small feeds frequently repeated. He had also observed in the pyloric stenosis series how effectively the vomiting had been checked in several instances by this method of feeding, but the feeds had been so dilute that their caloric value was totally inadequate. He therefore suggested that better results might be obtained by the use of stronger feeds, given frequently, in small quantities. Thus the necessary calories would be supplied. The results of John Thomson, Leonard Findlay and others indicated that these patients should receive at least seven to ten days' medical treatment along these lines together with gastric lavage before resort was had to operative measures. In infants exhibiting an early onset of symptoms and in those who failed to respond to the foregoing medical treatment, operation was indicated. The results obtained by Dr. Downes in his series of eighteen spoke for themselves and showed how in expert hands the mortality rate could be reduced to a minimum.

DR. F. KINGSLEY NORRIS, after expressing the interest with which he had followed the paper and discussion, said that he had operated on four occasions for the relief of pylorus stenosis and all the infants had done well. In one the accident of splitting the mucous membrane at the duodenal end of the incision had occurred, but the mucosa had been sutured and no complication had resulted. He suggested as a point in operative technique that the surgeon after carrying the incision down to the mucous membrane should use the back of the scalpel while separating the opposing sides of hypertrophied muscle until the mucous membrane pouted into the incision.

One child had remained stationary in weight for a fortnight following the operation, although there had been no vomiting and the quality of the motions had improved. In a recent article in *The Lancet*, it had been pointed out that there was not always an immediate and rapid gain in weight after operation for pyloric stenosis.

Troublesome diarrhœa had been described as a post-operative complication, but he had been fortunate enough not to have met it.

It was difficult to conceive how medical treatment could influence the hard, almost cartilaginous mass produced by the fibro-muscular overgrowth in congenital hypertrophy of the pylorus.

DR. DOWNES in reply expressed his appreciation of the kindly reception accorded his paper. He was rather surprised to find such unanimity of opinion amongst the physicians who seemed to be even more disposed towards operative treatment than he was himself. He was particularly interested in Dr. Ferguson's account of spasm of the pylorus, as he personally had never met with an instance. He had used intra-peritoneal saline injections in a few cases only, for though he had had considerable experience of this procedure in other conditions, he confessed to a nervousness, perhaps groundless, regarding its use before operation in pyloric stenosis. He recollected one infant in whom the inferior epigastric artery had been punctured during the introduction of saline solution within the peritoneum. It was in a minority of cases only that he used saline solution at all.

With reference to anæsthesia, Dr. Downes said that ether and chloroform, the latter being taken well by babies, were the drugs employed. The most important point was that the baby should be well under the influence of the anæsthetic so that suture of the wound should not be impeded by protrusion of the omentum or stomach. Referring to Findlay's recent and instructive paper, he expressed the opinion that the former was inclined to ignore some of the American figures and based his arguments for medical as against surgical treatment on the published English results of operation by the Rammstedt method. He (Dr. Downes) was quite at a loss to account for the high operation mortality reported by English writers, unless it might be that the public hospital type of baby in England was less strong than the American or was more often artificially fed. He had no explanation for the sudden collapse which sometimes occurred after operation; this was seen commonly in any state of inanition in babies. Diarrhœa after operation, a complication regarded very seriously by Tyrrell Grey, had not occurred in his experience. In conclusion he desired to emphasize that the essentials for success in operating were: early diagnosis, rapid operation and warmth.

THE MEDICAL SCIENCES CLUB OF SOUTH AUSTRALIA.

A MEETING OF THE MEDICAL SCIENCES OF SOUTH AUSTRALIA was held at the Adelaide University on May 4, 1923.

Habronemic Cunjunctivitis.

DR. L. B. BULL said that at the sixteenth meeting of the Medical Sciences Club, held on April 7, 1922, he had reported a case of habronemic cunjunctivitis occurring in a child. Since the date of that communication, he had received a letter from Mr. Gerald Hill who had stated

inter alia: "Your theory regarding the cause of 'bung-eye' at once recalled to my mind a belief held by a station manager of my acquaintance who had had considerable experience in treating cases on his station. This man informed me that ordinarily the presence of flies about one's eyes did not result in a bung-eye, but that if a stinging sensation was felt a bung-eye followed. It was his practice whenever he felt such a sensation following an attack on his eye by a bush-fly to get his companion to search in his eye for a thread-like particle of matter evacuated by the fly. If the matter was found and removed no bung-eye resulted; otherwise a bung-eye invariably followed. I do not mention the above as a scientific evidence in support of your theory, but I thought it sufficiently interesting to bring up at this stage.

"At one period I was resident for ten months in a certain locality where an old aboriginal and I were the only two of a camp of twenty-three individuals (mixed sexes) who never suffered from bung-eyes. The aboriginal was strangely sensitive to the attacks of flies and protected his eyes as much as possible, whilst I never went out without a fly-net in position. The other members took no precautions whatever and were rarely free from eye troubles and were often badly infected and compelled to remain in darkened quarters for weeks at a time. I have had many experiences of this kind and have come to the conclusion that bung-eye is never contracted by those who use an effective fly-net. Few people, however, can endure a net in some tropical situations and most would rather take the risk of a bung-eye than suffer the discomforts of a net."

In answer to a question by Dr. Bull as to the presence of horses in the camp, Mr. Hill had replied that there was a horse at the camp mentioned, but it died from "walk-about" disease after he arrived there and there had been no other nearer than two hundred or three hundred miles. "Bung-eyes" were numerous enough, however, for a period of at least six months after the death of the horse.

PROFESSOR HARVEY JOHNSTON expressed his opinion that it would be almost impossible to detect habronema larvæ on the surface of the eye.

Dr. Bull stated that he had never had occasion to use the magnifying lens when experimentally infecting eyes with habronema larvæ.

Professor Harvey Johnston further pointed out that the species of fly which might be expected to convey habronema larvæ, was frequently found in Melbourne, but cases of "bung-eye" did not occur there.

Lycopodium Giganteum as a Styptic.

Dr. Bull also drew attention to an article appearing in *The Veterinary Journal*, February, 1923, by Major-General Sir Frederick Smith, recalling La Fosse's observation of one hundred and seventy years ago, that the powder contained in the common puff ball *Lycopodium giganteum* was a valuable styptic. The original experiments had been performed upon horses in the presence of a Commission appointed by the French Government to test the value of the discovery. The temporal artery of a horse had been cut half-way through and the spores of the Lycopodium had been applied. Bleeding stopped within six minutes. The arteries had been observed pulsating and forcing blood up against a cone-shaped plug which had formed at the orifices of the arteries.

PROFESSOR J. B. CLELAND pointed out that the spores of the puff ball were very small, being about 4μ to 5μ in diameter. This suggested that the fact observed by La Fosse might be mechanical in origin and due to contact of the blood over a large surface promoting coagulation. Nevertheless the Commission appointed to test La Fosse's conclusion had applied fine powders derived from other sources and had failed completely to procure effects comparable with those obtained by La Fosse with Lycopodium spores.

DR. A. LENDON stated that under the circumstances prevailing in the experiments reported the cessation of bleeding must have been due to contraction of the walls of the arteries because coagulation would not be sufficiently rapid.

PROFESSOR HARVEY JOHNSTON suggested that the active agent might not be the spores themselves, but some constituent of the residual protoplasm adhering to the outside of the spores.

Professor Cleland referred to experiments which had been carried out in the micro-biological laboratory of New South Wales with a view to ascertaining the possibility of suspended solid particles in air being carried down into the alveoli of the lungs in the course of respiration. Lycopodium had been used for this purpose because the spores are very small, very light and easily recognized by their form. A monkey had been tied down and a puff ball opened by pressure in front of its nostrils. Within two or three minutes after the discharge of the cloud of spores the monkey had been killed, but spores had nevertheless been found to have penetrated to the alveoli of the lungs. The practical significance of this experiment was that it showed how small bodies such as, for example, the organism causing influenza, might be inhaled and reach the alveoli of the lung.

The Urine of Echidna Aculeata.

PROFESSOR T. BRAILSFORD ROBERTSON reported analyses of the urine of *Echidna aculeata*. These analyses had shown that the urine was of a mammalian type in that 88% of the total nitrogen output was in the form of urea. The urine had differed from that of the majority of mammals, however, in containing considerable quantities of uric acid, *viz.*, thirty-six milligrammes per hundred. In all mammals, with the exception of man and chimpanzee, of which the urine has been investigated from this point of view, it had been found that uric acid was wholly or almost wholly absent, its place being taken by allantoin. The urine of the echidna could not be obtained in sufficient amounts to permit an attempt to determine allantoin directly. It was determined indirectly in the following manner: Urea was determined by the urease method and in another specimen by auto-claving at 150° C. with an equal volume of concentrated hydrochloric acid followed by the determination of ammonia. The former method would yield ammonia corresponding to urea only besides pre-formed ammonia in the urine. The second method would yield ammonia derived from both urea and allantoin besides the pre-formed ammonia in the urine. The difference between the two estimates, therefore, afforded a measure of the content of allantoin. The ascertained difference between the two results did not exceed the experimental error of the estimates, but ascribing to it its maximum possible value and the whole of the observed difference to allantoin the uricolytic index or percentage of uric acid converted into allantoin could not have exceeded twenty-five; whereas in other mammals it exceeded ninety. It was of interest to observe that the lowest uricolytic index previously observed in mammals other than man and the chimpanzee was that obtained in the case of a marsupial, the American opossum, which had been found to have a uricolytic index, according to Hunter, of seventy-nine. *Echidna aculeata*, therefore, resembled the mammals in that the greater part of the nitrogenous output was in the form of urea, but it resembled the birds and reptiles in its inability to convert uric acid into allantoin.

Prickly Pear.

PROFESSOR HARVEY JOHNSTON gave an account of the history of the invasion of Queensland and New South Wales by the prickly pear and of the conditions which had been ascertained to govern its spread and distribution.

Post-Graduate Work.

SPECIAL COURSE IN MELBOURNE.

THE Executive Committee of the Melbourne Permanent Committee for Post-Graduate Work have requested us to publish the following brief synopsis of the lectures to be delivered by Professor C. J. Martin, F.R.S., on September 17, 20, 27 and 28, 1923, in the Assembly Hall, Collins Street, Melbourne.

(i.) General principles and applied physiology.
(ii.) Effect of deficiency of (*a*) protein, (*b*) fats, (*c*) carbo-hydrates and (*d*) mineral substances.
(iii.) Rationale of a balanced diet.
(iv.) The story of the vitamins.
(v.) Growth, development and diet of children.
(vi.) Diseases due to an inadequate supply of these accessory factors.
(vii.) Rickets, scurvy and beri-beri.

At the termination of the several lectures Professor Martin will be glad to answer questions.

For the past eight years many workers at the Lister Institute of Preventive Medicine have been investigating the problems connected with the accessory food factors, under the direction of Professor C. J. Martin. His presence in Melbourne offers a unique opportunity to all medical practitioners to learn the results of recent research in this field. Owing to the consideration of space in the Assembly Hall the Committee will be pleased to receive entries for these lectures as soon as possible.

University Intelligence.

TESTIMONIAL TO PROFESSOR SIR HARRY ALLEN.

We have been informed that the following names were accidentally omitted from the list of subscribers to the Professor Sir Harry Allen Fund which appeared in THE MEDICAL JOURNAL OF AUSTRALIA, August 4, 1923, page 132: Drs. D. Murdoch, R. G. Reid, E. Rogerson, Margaret Ross-Soden, J. D. K. Scott, T. W. Sinclair, J. A. R. Smith, Clara Stone, E. W. Sutcliffe, D. Tregonning and A. J. Trinca.

Medical Matters in Parliament.

THE INTERNATIONAL HEALTH BOARD.

On August 24, 1923, the Honourable Dr. Earle Page moved in the House of Representatives:

> That this House places on record its deep gratitude to the International Health Board (Rockefeller Institute) for its generous and valuable assistance in connexion with the public health of the Commonwealth.

In moving this vote of thanks, Dr. Earle Page mentioned the names of Dr. Lanza, Dr. Sawyer and Colonel Longley, "who have done work of such incalculable value in connexion with the investigation of anchylostomiasis or the hookworm disease, in the endeavour to abolish it from the tropical parts of the Commonwealth." He continued to describe the work conducted in relation to tropical hygiene, industrial hygiene, sanitary engineering and and laboratory administration.

The motion was seconded by Dr. W. Maloney and was carried unanimously.

It is very gratifying that Parliament has now placed on record its appreciation of the assistance rendered by that wonderful organization the International Health Board of the Rockefeller Foundation.

THE NATIONAL ASSOCIATION FOR THE PREVENTION AND CURE OF CONSUMPTION.

Our attention has been directed to the new dispensary that has been opened in Little Stevens Street, Balmain, Sydney, by The National Association for the Prevention and Cure of Consumption. In the year 1912 this association established an anti-tuberculosis dispensary at the corner of Hay and Parker Streets, in the heart of Sydney. The honorary medical officers are six in number, while three practitioners are on the honorary consulting staff. The dispensary is in the charge of one trained nurse of experience with an assistant. The dispensary is open on Monday, Tuesday, Thursday and Friday afternoons for the treatment of patients.

On July 4, 1923, the second anti-tuberculosis dispensary was opened. The staff has been recruited from among the local practitioners. The positions were not advertised. Five medical practitioners offered their services and four were selected. At present the dispensary is open on Wednesday and Saturday afternoons and is under the charge of the Sister from the Hay Street Dispensary.

Correspondence.

DERMATITIS FROM EUCALYPTUS TREES.

Sir: In your issue of August 18, 1923, page 173, "Poisonous Plants of all Countries" is reviewed and your reviewer, commenting upon the instances of *Dermatitis venenata* ascribed to the genus Eucalyptus, remarks: "As far as we are aware, no reference to a case has appeared in the medical literature of Australia." Possibly the examples quoted in the work reviewed were those instanced by Mr. J. H. Maiden, Government Botanist and Director of the Botanic Gardens of Sydney, in a paper communicated to the Therapeutical Society in April, 1904, and reported in *The British Medical Journal* of April 30, 1904 (Volume I., page 1019). In this article Mr. Maiden gives a list of plants, Australian and other, which cause irritation of the skin and eczema. He includes two species of eucalyptus, *Eucalyptus hemiphloia* (gray gum) and *Eucalyptus maculata* (spotted gum). He states that these plants excited irritation of the skin not only by contact, but even by proximity. *Eucalyptus hemiphloia* (called also "box"), occurs on the coastal area and tablelands of Queensland, New South Wales, Victoria and South Australia. Its oil contains cineol (eucalyptol), pinene and aromadendral. *Eucalyptus maculata* inhabits the coastal district and tableland from Queensland down to the Clyde River (New South Wales). Its oil contains cineol, pinene and sesquiterpene. Eucalyptus oil, applied to normal skin, especially if evaporation be prevented, may produce erythema, with burning feeling and followed by desquamation or a papular or pustular dermatitis or an eczematoid eruption. Externally applied to abraded or raw surfaces, the oil may excite burning pain.

Yours, etc.,
JOHN MACPHERSON.

Wyoming, Macquarie Street, Sydney,
August 24, 1923.

Proceedings of the Australian Medical Boards.

QUEENSLAND.

The undermentioned have been registered, under the provisions of the *Medical Act of 1867*, as duly qualified medical practitioners:

FRASER, FARQUHAR WILLIAM, M.B., Ch.M., 1922 (Univ. Sydney), Quilpie.
LANE, MURIEL SHIRLEY, M.B., Ch.M., 1921 (Univ. Sydney), Lady Lamington Hospital, Brisbane.
WARTZKI, IVAN MEYER, M.B., B.S., 1918 (Univ. Melbourne), Babinda, North Queensland.

TASMANIA.

The undermentioned have been registered, under the provisions of *The Medical Act, 1918*, as duly qualified medical practitioners:

MERRILLEES, CRICHTON RAOUL, L.R.C.S., L.R.C.P. 1907 (Edin.), L.F.P.S. (Glas.), Carlisle Street, St. Kilda, Victoria.
MORROW, ROBERT, B.Ch., 1884, M.D. 1912 (Trinity College, Dublin), Hobart.

Books Received.

DISEASES OF THE RECTUM AND COLON AND THEIR SURGICAL TREATMENT, by P. Lockhart-Mummery, F.R.C.S. (Eng.), M.A., M.B., B.C. (Cantab.); 1923. London: Baillière, Tindall and Cox; Demy 8vo., pp. 882, with five coloured plates and 215 figures in the text. Price: 25s. net.

DIAGNOSTIC METHODS: CHEMICAL, BACTERIOLOGICAL AND MICROSCOPICAL, by Ralph W. Webster, M.D., Ph.D.; Seventh Edition, Revised and Enlarged; 1923. Philadelphia: P. Blakiston's, Son and Company; Demy 8vo., pp. 946, with 37 coloured plates and 172 illustrations. Price: $9.00.

PHYSIOTHERAPY TECHNIC: A MANUAL OF APPLIED PHYSICS, by C. M. Sampson, M.D.; 1923. C. V. Mosby Company; Demy 8vo., pp. 444, with 85 illustrations. Price: $6.50.

BULLETIN DE L'ASSOCIATION FRANÇAISE POUR L'ÉTUDE DU CANCER, Publié sous la direction de MM. Gustave Roussy et A. Herrenschmidt; 15e Année—Tome XI.; 1922. Paris: Masson et Cie; Royal 8vo., paper cover, pp. 740, with illustrations.

BACTERIOLOGY: A STUDY OF MICROÖRGANISMS AND THEIR RELATION TO HUMAN WELFARE, by H. W. Conn, Ph.D. and Harold J. Conn, Ph.D.; 1923. Baltimore, U.S.A.: Williams and Wilkins Company; Demy 8vo., pp. 441, with 41 figures. Price, post paid: $4.50.

TUBERCLE BACILLUS INFECTION AND TUBERCULOSIS IN MAN AND ANIMALS, by Albert Calmette; Authorized Translation by William B. Soper, M.D. and George H. Smith, Ph.D.; 1923. Baltimore, U.S.A.: Williams and Wilkins Company; Demy 8vo., pp. 712, with 25 coloured plates and 31 illustrations in the text. Price: $8.50.

BRAIN ABSCESS: ITS SURGICAL PATHOLOGY AND OPERATIVE TECHNIC, by Wells P. Eagleton, M.D., Newark, N.J.; 1922. New York: The Macmillan Company; Demy 8vo., pp. 316, with 40 illustrations.

THE AMBULATORY TREATMENT OF FRACTURES AND DISEASED JOINTS, by Carel A. Hoeffticke, with an Introduction by Frank Romer, M.R.C.S., L.R.C.P.; 1923. London: William Heinemann (Medical Books), Limited; Royal 8vo., pp. 282, with 261 illustrations. Price: 17s. 6d. net.

A DICTIONARY OF TREATMENT, INCLUDING MEDICAL AND SURGICAL THERAPEUTICS, by Sir William Whitla, M.D., D.Sc., LL.D., M.P.; Seventh Edition; 1923. London: Baillière, Tindall and Cox; Demy 8vo., pp. 1108. Price 25s. net.

OPENING DOORS: A LITTLE BOOK FOR THE MOTHERS OF BABIES WHO ARE LONG IN LEARNING TO BEHAVE LIKE OTHER CHILDREN OF THEIR AGE, by John Thomson, M.D.; 1923. Edinburgh and London: Oliver and Boyd; Crown 8vo., limp covers, pp. 20. Price 1s. 6d. net.

RECOVERY RECORD FOR USE IN TUBERCULOSIS, by Gerald B. Webb, M.D. and Charles T. Ryder, M.D.; 1923. New York: Paul B. Hoeber, Inc.; Post 8vo., pp. 79, with 160 chart sheets (for use by patient). Price: $2.00.

PRÉCIS DE PATHOLOGIE MÉDICALE: Tome II., Maladies de l'Appareil respiratoire, par MM. le Professeur F. Bezançon et le Docteur S. I. de Jong; 1923. Paris: Masson et Cie; Post 8vo., pp. 566, with 83 figures. Price Frs. 25 net.

DIGESTIVE DISTURBANCES IN INFANTS AND CHILDREN ROENTGENOLOGICALLY CONSIDERED, by Charles Gilmore Kerley, M.D. and Leon Theodore LeWald, M.D., being Volume Three of the Annals of Roentgenology, A Series of Monographic Atlases, edited by James T. Case, M.D.; 1923. New York: Paul B. Hoeber; Demy 4to., about 80 pages of letterpress in three languages (English, French and Spanish), 52 full page plates with descriptive legends and 49 illustrations. Price: $12.00.

Medical Appointments.

DR. R. L. THOROLD GRANT (B.M.A.) has been appointed Temporary Honorary Assistant Physician and DR. M. C. PATRICK has been appointed a Resident Medical Officer at the Adelaide Hospital.

* * * *

DR. A. H. E. WATSON (B.M.A.) has been appointed a Member of the Quorn High School Council, South Australia.

* * * *

DR. JEROME E. O'FLYNN (B.M.A.) has been appointed a Justice of the Peace for the Blackwood Magisterial District, Western Australia.

* * * *

DR. W. H. FITCHETT (B.M.A.) has been appointed Medical Superintendent and DR. A. W. SHUGG (B.M.A.) has been appointed Second Medical Officer of the New Norfolk Cottage Hospital, Tasmania.

* * * *

DR. C. E. WATSON (B.M.A.) has been appointed Public Vaccinator at Tallangatta, Victoria.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Societies' Dispensary Friendly Society Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phœnix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

SEP. 11.—New South Wales Branch, B.M.A.: Ethics Committee.
SEP. 12.—Western Australian Branch, B.M.A.: Council.
SEP. 12.—Melbourne Pædiatric Society.
SEP. 14.—New South Wales Branch, B.M.A.: Clinical Meeting.
SEP. 14.—Queensland Branch, B.M.A.: Council.
SEP. 14.—South Australian Branch, B.M.A.: Council.
SEP. 14.—Central Southern Medical Association, New South Wales.
SEP. 18.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
SEP. 19.—Victorian Branch, B.M.A.: Council.
SEP. 19.—Western Australian Branch, B.M.A.: Branch.
SEP. 19.—South Sydney Medical Association, New South Wales.
SEP. 21.—Eastern Suburbs Medical Association, New South Wales.
SEP. 25.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
SEP. 26.—Western Medical Association (Parkes), New South Wales.
SEP. 27.—South Australian Branch, B.M.A.: Branch.
SEP. 27.—Brisbane Hospital for Sick Children: Clinical Meeting.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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